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THE
LINK-BELT MACHINERY COMPANY

ENGINEERS ∴ FOUNDERS ∴ MACHINISTS

39th Street and Stewart Avenue

CHICAGO, U.S.A.

MODERN METHODS

AS EXEMPLIFIED IN THE HANDLING OF

RAW AND MANUFACTURED PRODUCTS AND THE TRANSMISSION OF POWER

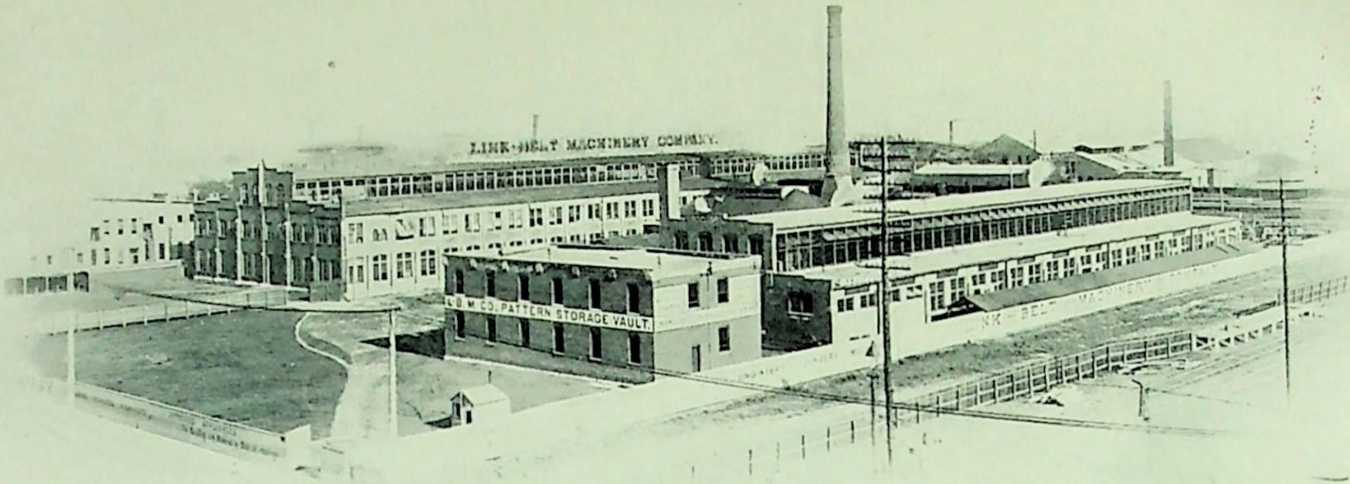
SOUTHERN DEPT., 710 Union Street, New Orleans, La.
Under Direction of W. G. Wilmot
DENVER OFFICE, No. 1328 17th Street, Denver, Colorado.

Link-Belt Supply Company, Minneapolis, Minn.
John D. Eby, Nos. 17 and 19 Main Street, San Francisco, California
Fred J. Rowlands, No. 41 Silver Bow Block, Butte, Montana

Link-Belt Company, 22 Clarence Street, Sydney, N.S.W., Australia
Honolulu Iron Works Company, Honolulu, Hawaiian Islands
Sucesores de Rafael Valdez, Guayaquil, Ecuador, S.A.
Fergusson Noguera y Ca, Bogota, Colombia, S.A.

THE LINK-BELT ENGINEERING CO.
PHILADELPHIA AND NEW YORK

TJ
1350
L9


LINK-BELT MACHINERY COMPANY.
L. B. M. CO. PATTERN STORAGE VAULT.
LINK-BELT MACHINERY COMPANY

Principal Office and Works THE LINK-BELT MACHINERY COMPANY.

Machine Shop and General Office, 410 x 125 ft. Pattern Vault, 90 x 40 ft. Power House and Smith Shop, 100 x 80 ft. Foundry, 290 x 93 ft.

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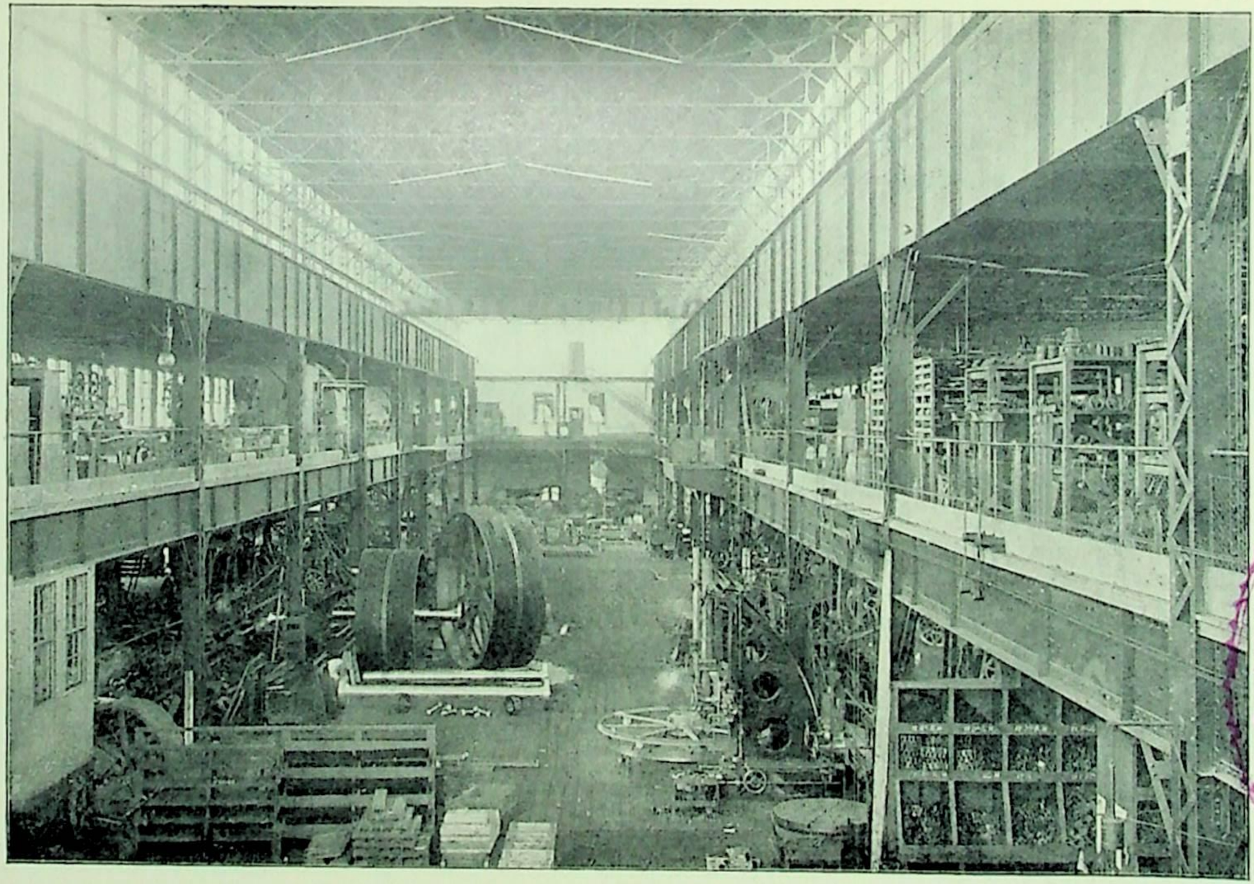


INTERIOR VIEW, MACHINE SHOP

Of Link-Belt Machinery Co. Equipped with 160 modern Tools, including Boring and Turning Mills having capacity for finishing Pulleys, Sheaves and Fly Wheels of any face or diameter; also Lathes and Straighteners capable of turning Iron or Steel Shafting up to 16 inches in diameter. Efficient Crane Service entire length of building. Power distributed by Manila Rope.

WE ARE THE ORIGINAL DESIGNERS AND MANUFACTURERS

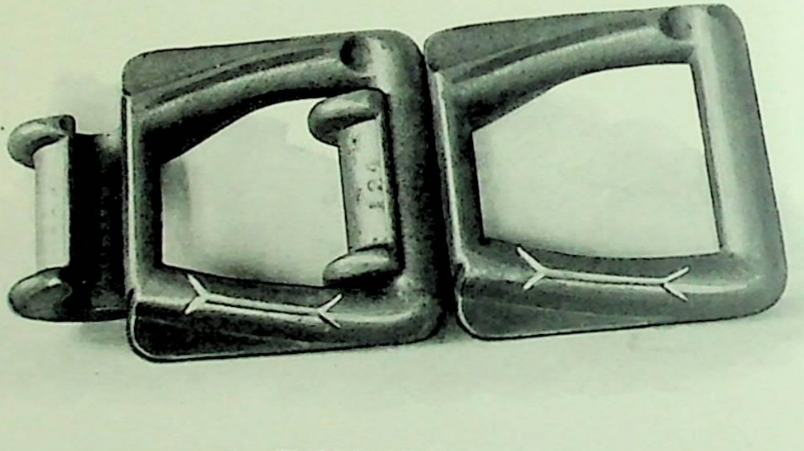
OF

DETACHABLE CHAIN OR LINK-BELTING

ALL the forms of plain and attachment links were first produced by us. We are familiar with every detail of manufacture and use. We possess all the master patterns and gauges. Our chains are always reliable.

THEY ARE THE STANDARD

* * *



TRADE-MARK, No. 30,425
July 20th, 1897

TO distinguish the "Original" Ewart Detachable Link-Belting from the various imitations on the market, we now cast every link with our special mark on the side-bar, as illustrated above.

Link-Belt Machinery for the Handling of all Classes of Raw and Manufactured Products.

The Employment of Link-Belt Machinery for the handling of all classes of raw and manufactured products, was originated and developed by us, and the world-wide extent and wonderful diversity of the various applications of Link-Belting are partially shown in the following list of our specialties :

For Railroads and Warehouses.

Horizontal, Inclined and Vertical Transportation for Barrels, Boxes, Bales, Bundles, and Bags.
Locomotive and Steamship Coaling Stations.
Dodge Patent System Storing Coal.
See pages 9 to 38.

Coal and Metal Mines and Yards; Clay, Tile, and Cement Manufactories.

Elevators and Conveyors for handling Coal, Clay Tiles, Cement, Crushed Stone, Ore, Matte, etc.
Elevators and Cooling Conveyors for Hot Roasted Ores.
Shaking and Revolving Screens. Breaker Rolls, Ventilating Fans, Weigh Boxes, Car Hauls, etc.
The Luhrig System of Coal Washing.
Curved Slat and Endless Trough Conveyor.
Cast Iron Screw Conveyor.
Endless Rope Hauls and Tail Rope System.
For Electric Coal Mining Machinery, send for special catalogue.
See pages 39 to 70.

Electric Light, Street Railway and Industrial Power Stations.

Coal and Ashes Handling Machinery.
Tilting Cars and Turn Tables, shown on pages 62 and 63.
See pages 71 to 77.

Cane and Beet Sugar Refineries and Plantations.

Conveyors and Elevators for Handling Cane, Bagasse, Refuse, Wet and Dry Sugars, Masse Cuite, Barrels, etc.
Trolley Systems for Handling Cane in Yard and Feeding Carriers.
The Standard Car Unloading and Traveling Crane.
"Cook and Reid" Granulator.
"Baldwin" Sugar Shakers, Juice Strainers, etc.
See pages 78 to 104.

Packing Houses.

Elevators and Conveyors for Handling Barrels, Boxes, Cans, Fertilizers, Entrails, Hogs Heads Gambrels, Scrap Meat, Cold and Hot Hogs Paunches, Manure, Ice, Beef, etc.
Ice Crushers, Beef and Bacon Chippers, Fat Washers, Can Washing Machines.
See pages 105 to 111.

Grain Elevators and Flour Mills.

Elevators and Conveyors for Handling Grain, Ear Corn, Barrels, etc.
Grain Trippers and Transfers.
Car Pullers.
Mayo Patent Universal Distributing Spouts.
Swivel Telescoping Trolley Spouts.
Clark Grain Shovel.
The Evans Patent and S. & L. Controllable Wagon Dumps.
Cockrell Scouring Cases, etc.
See pages 112 to 126.

Breweries, Malt Houses and Distilleries.

Elevators and Conveyors for Handling Wet and Dry Grains, Ice, Keg, Barrels, etc.
Schreiber's Patent Bottle Soaking and Conveying Machine.
Automatic Barrel Washing Machines.
Link-Belt Patent Transfer Tables.
See pages 127 to 133.

Fish, Fruit and Vegetable Canneries.

Elevators and Conveyors for Handling Green Corn, Husks, Slops, Fish Cans, Boxes, etc.
See pages 134 to 138.

Saw and Planing Mills and Wood-working Establishments.

Elevators and Conveyors for Handling Logs, Stave Bolts, Posts, Finished Lumber, Offal, Sawdust, etc.
Lumber Sorters and Transfers.
Emery Lumber Trimmer.
Two Saw, Four-foot Slasher.
Gagn Slab Slashers.
Automatic Fuel Feeders, etc., etc.
See pages 139 to 152.

Miscellaneous.

Elevators and Conveyors for use in Blast Furnaces, Rolling Mills, Smelters, Foundries, Tanneries, and Extract Works, Oil, Starch, and Glucose Factories, Paper and Pulp Mills, Glass Factories, Warehouses, Printing Establishments, Office Buildings, etc., etc.
See pages 153 to 175.

For Lists on Shafting, Shaft Bearings, Pulleys, Gearing, Friction Clutches, Rope Sheaves, etc., see pages 247 to 298.

In Ordering, or Sending for Estimates Observe the Following:

ELEVATORS

1st.—State nature of material to be handled.

2d.—Quantity in pounds, or bushels per hour.

3d.—Height material is to be elevated.

4th.—Speed and diameter of shaft from which power to drive elevator is to be taken.

5th.—Location of driving shaft relative to elevator, and distance from head or foot shaft.

6th.—If Link-Belting is to replace rubber or cotton belts, give inside measurements of old Elevator "Leg," and diameter of head and foot pulleys.

CONVEYORS

1st.—State nature of material to be handled.

2d.—Quantity in pounds or bushels, or size and weight of packages, and number per hour.

3d.—Distance between centers of head and tail shafts.

4th.—Is material to be delivered at the end of conveyor, or at intermediate points?

5th.—Is conveyor to run horizontally, or at an incline?

6th.—Speed and diameter of shaft from which conveyor is to be driven.

7th.—Location of driving shaft relative to conveyor head or tail shaft, and distance from same.

DRIVING BELTS

1st.—Give amount of horse-power to be transmitted.

2d.—Diameter and speed of *driving* shaft.

3d.—Diameter and speed of *driven* shaft.

4th.—Distance between centers of shafts.

5th.—State relative position of shafts.

6th.—If Link-Belting is to replace leather or rubber belts, give diameter of pulleys and width and thickness of belt.

For outline drawings showing in detail various types of Elevators and Conveyors, with description, see page 227 to 234.

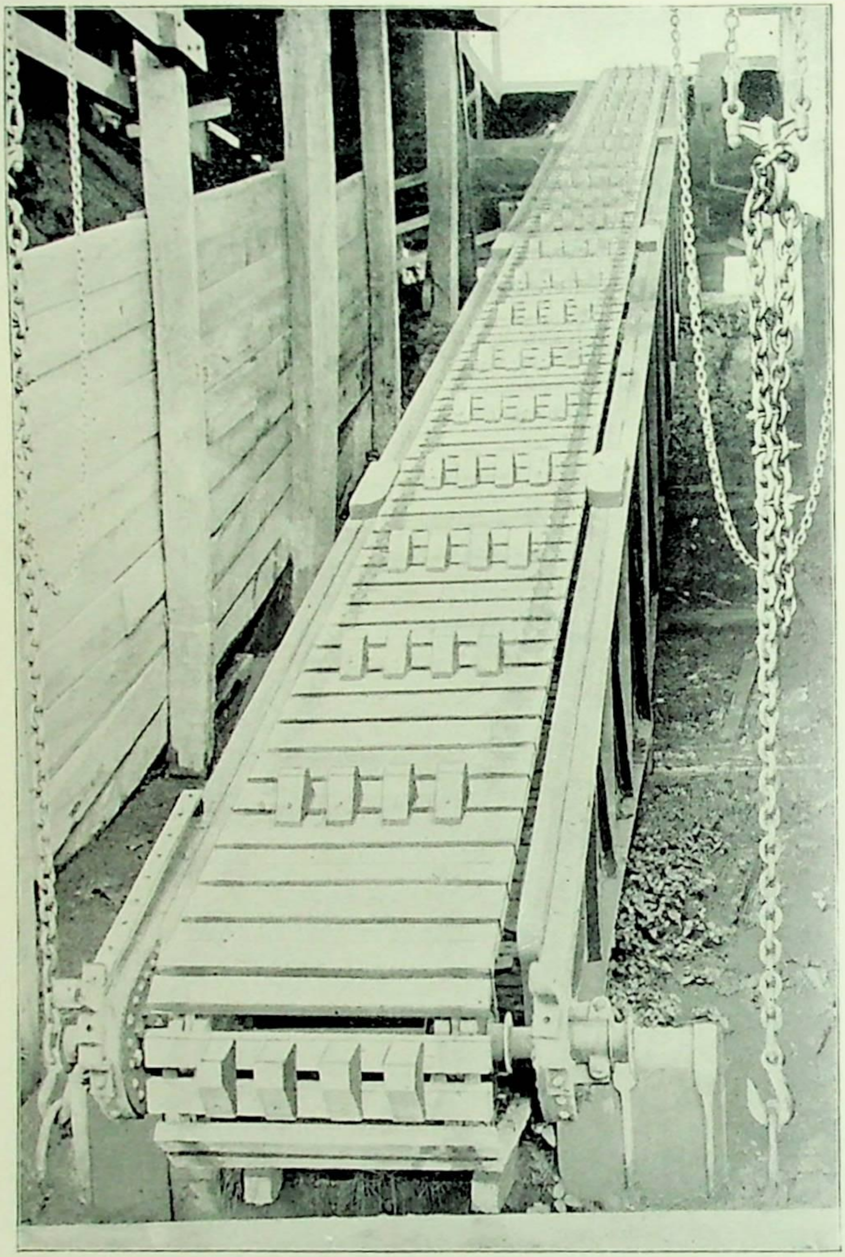
RAILROADS, WAREHOUSES, Etc.

MODERN FREIGHT AND PACKAGE HANDLING MACHINERY.

No class of modern labor saving machinery yields a better profit on the investment than Continuous Moving Elevators and Conveyors for the handling of all classes of freight and merchandise whether in bulk, barrels, boxes, bales, or bags. The quantities carried are large, and rapid handling is of the highest importance. Every hour that vessels, cars, or teams are detained for loading and unloading means a loss of money.

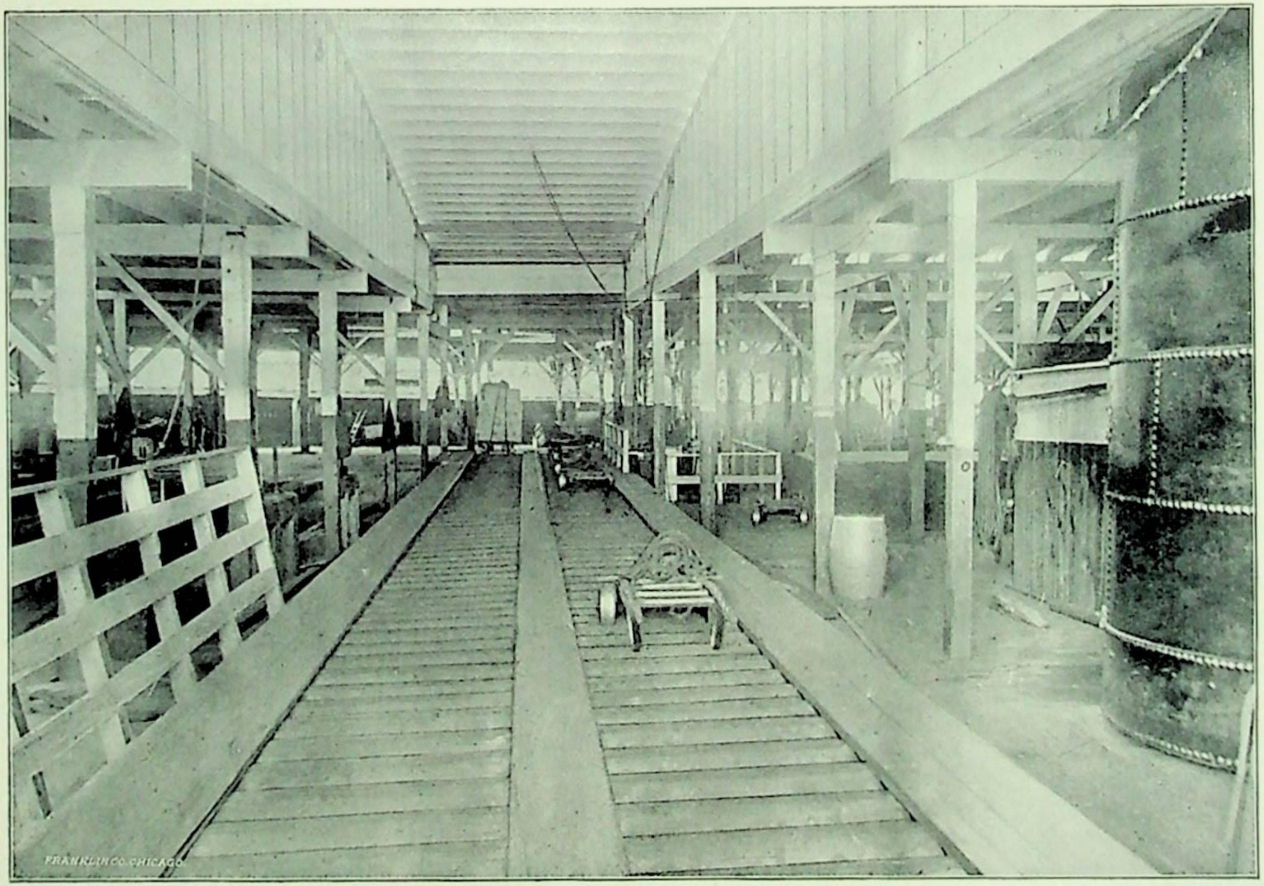
Link-Belt Elevators and Conveyors are in successful operation in the warehouses and manufacturing plants of the largest concerns in the country, a few of which we include in the following list:

National Biscuit Co.	Chicago & New York, barrels flour and crackers.
New York Central & H. R. R.R.	New York, freight.
Armour & Company	Chicago, tierces of beef and pork.
Great Northern Steamship Co.	Buffalo, miscellaneous freight.
Western Warehousing Co.	Chicago, miscellaneous freight.
Illinois Central Ry.	New Orleans, miscellaneous freight.
Montgomery Ward & Co.	Chicago, miscellaneous merchandise.
American Distilling Co.	Pekin, Ill., barrels whisky.
Nebraska City Starch Co.	Nebraska City, Neb., boxes, etc.
Cleveland Linseed Oil Co.	Cleveland, Ohio, sacks seed.
American Cereal Co.	Cedar Rapids, Ia., packages and barrels.
Simmons Hardware Co.	St. Louis, Mo., packages hardware.
Anglo-Swiss Condensed Milk Co.	Dixon, Ill., boxes of cans.
Standard Oil Co.	Omaha, Cleveland, etc., barrels oil.
United States Baking Co.	Pittsburg, Pa., boxes.
Hudnut Co.	Terre Haute, Ind., barrels flour.
Pabst Brewing Co.	Milwaukee, Wis., beer cases.
Butler Bros.	Chicago, miscellaneous merchandise.
Marshall Field & Co.	Chicago, packages
Sweet, Dempster & Co.	Chicago, cases of hats.
Proctor & Gamble Co.	Ivorydale, Ohio, boxes soap.
Western Wheel Works	Chicago, bicycle crates.



ENDLESS FREIGHT CARRIER.

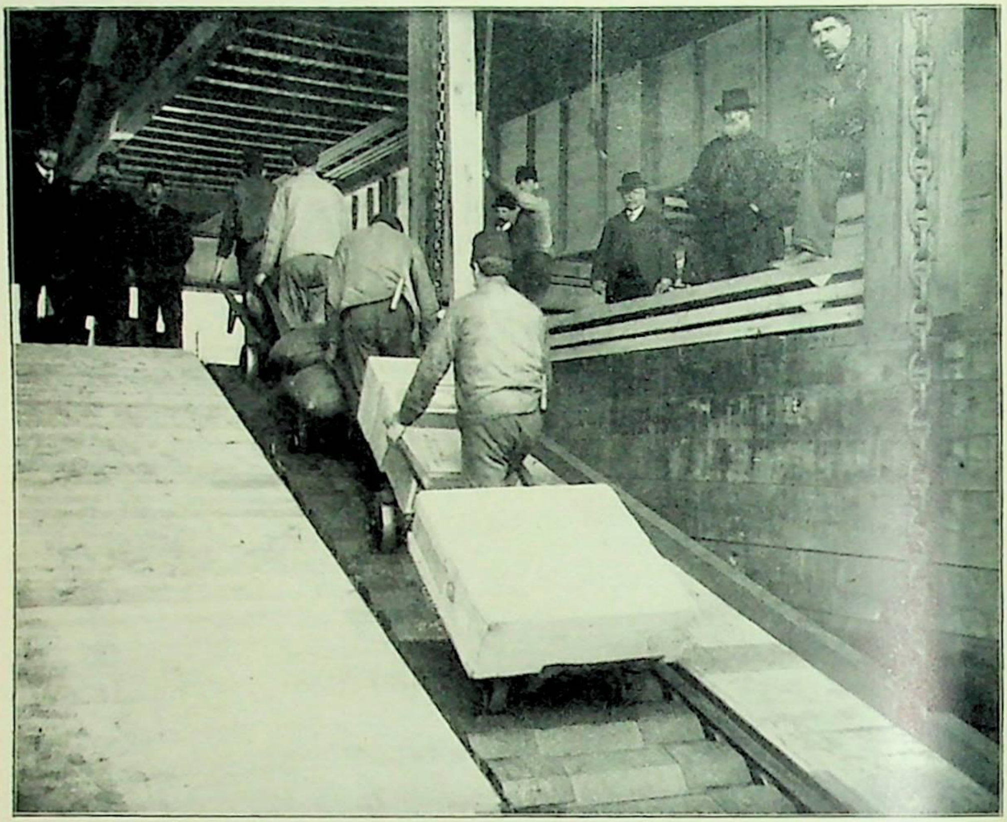
95 feet long, for loading and unloading vessels at wharf of Texas & Pacific Railway, Donaldsonville, La. Carrier is supported by steel truss, hinged at inboard end so that outboard end may rise and fall with varying heights of deck of vessel. Width of apron, 48 inches. View is from vessel looking toward Wharf. Erected 1894.



ONE OF TWO PAIRS OF ENDLESS FREIGHT CARRIERS

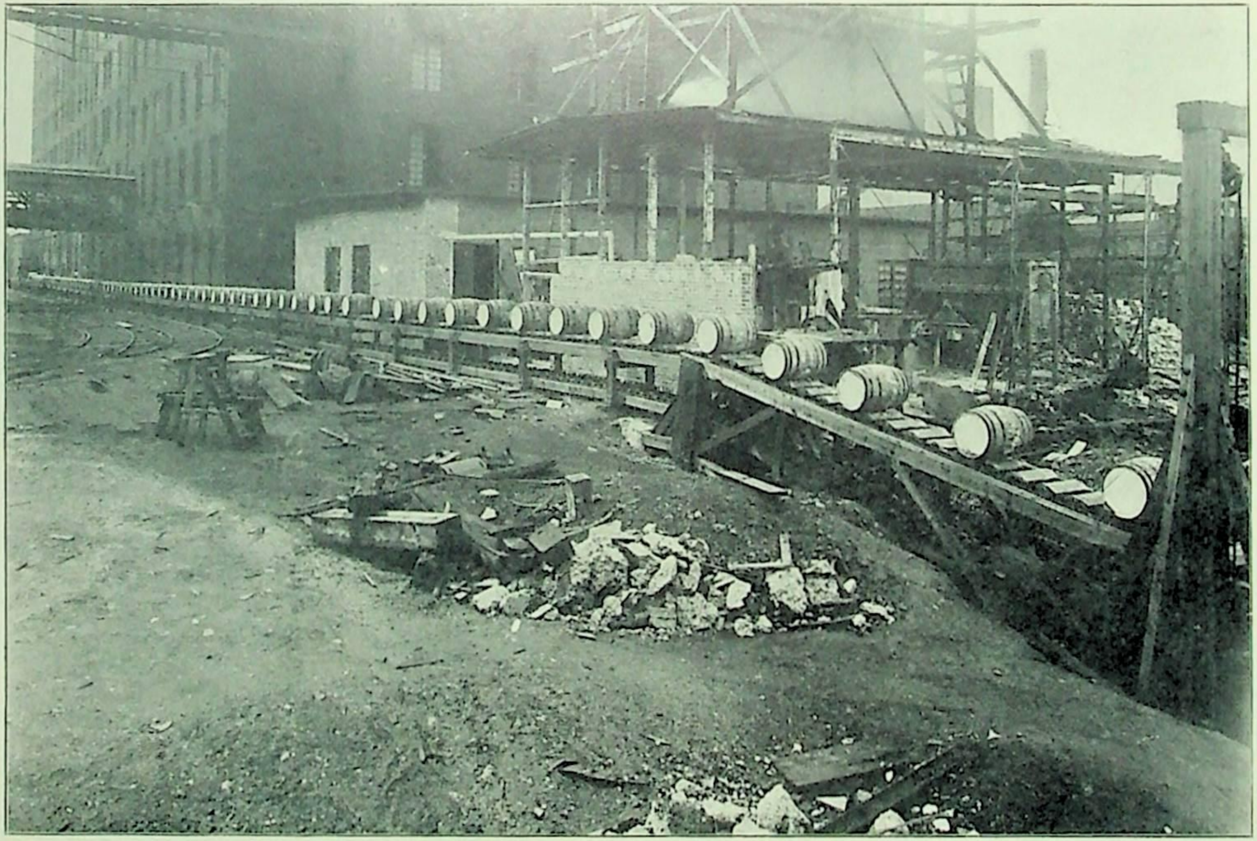
At Algiers wharf of Southern Pacific Company, New Orleans, La. View looking from vessel into wharf.

"Our Mr. Morse has made a careful estimate of the saving in labor made by these Elevators and puts it at $18.00 per day, these figures agreeing quite closely with the estimate made by your company to the effect that we could easily save the price of the Elevators in one year."—*Extract from letter J. Kruttschnitt, General Manager Southern Pacific Co., dated New Orleans, December 28, 1894.*



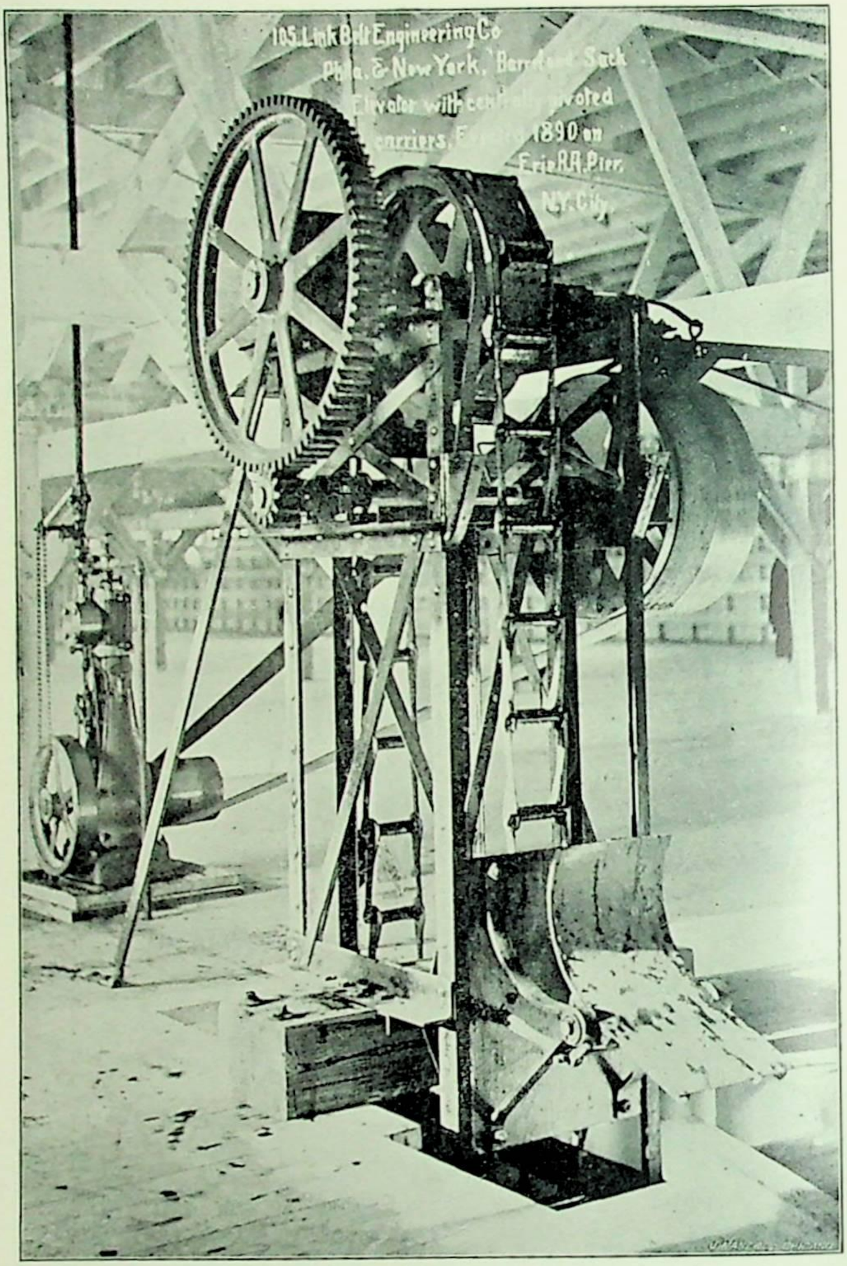
CARRIER FOR LOADING AND UNLOADING VESSELS

At Metropolitan Steamship Co.'s pier, India wharf, Boston, Mass. View from vessel toward wharf. The Carrier consists of an endless traveling platform, onto which the men walk with their loaded trucks, and are carried up the incline into the warehouse. The return trip with empty trucks is made over the stationary part of the gangway. The entire structure is pivoted at the inboard end, and is raised or lowered to suit the varying heights of vessels. As the traveling platform is designed to hold the trucks securely in place during the ascent, no additional labor is required to unload a vessel whose ports are considerably below the deck of the pier, and as the Carrier is reversible it can also be used for loading the vessel when the ports stand above the pier. A small electric motor supplies the required power.



ENDLESS FREIGHT CARRIER

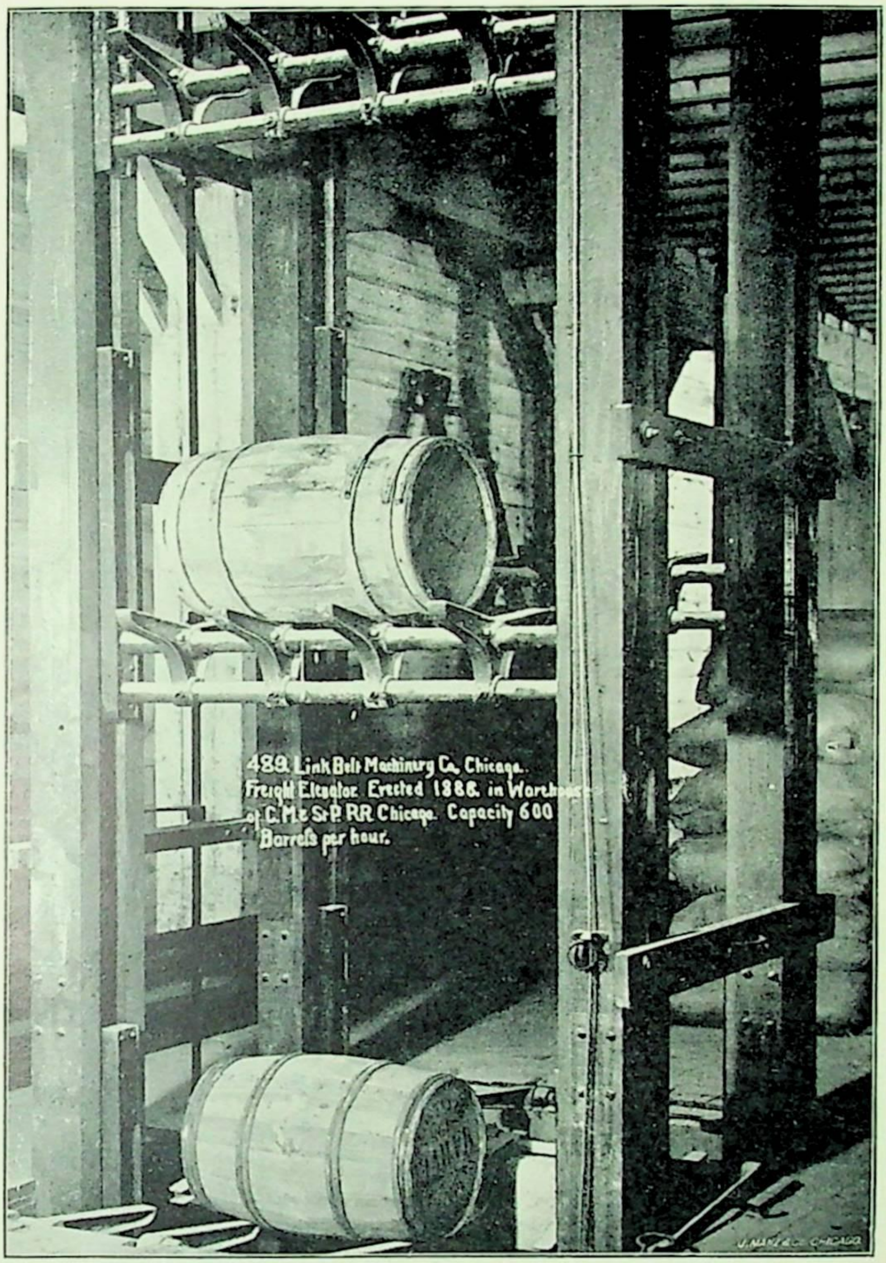
Designed and erected for the Glucose Sugar Refining Co., Taylor Street Bridge, Chicago. Length, 435 feet. Adjustable end has rise and fall of 16 feet. View shows Carrier running with 75 barrels, weighing 700 lbs. each. Carrier also handles sacks.


105. Link Belt Engineering Co
Phila. & New York, "Barrel and Sack
Elevator with centrally pivoted
carriers. Erected 1890 on
Erie RR. Pier,
N.Y. City.

AUTOMATIC-DISCHARGE BARREL AND SACK ELEVATOR,

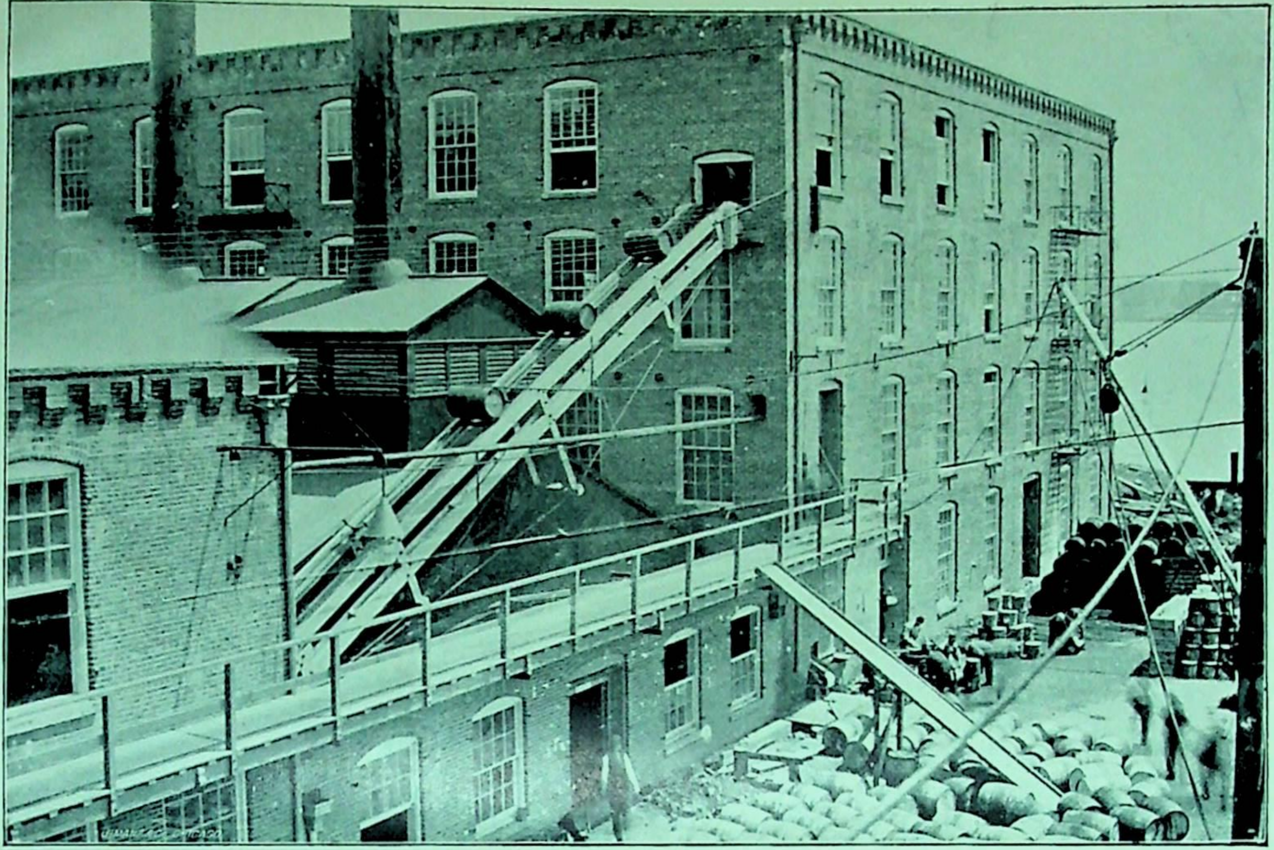
with centrally pivoted carrier arms. One of six erected 1890 at freight dock of the New York, Lake Erie & Western Railway, New York City. Height of elevator, 27 feet.

View shows carrier tripped.


489. Link Belt Machinery Co. Chicago.
Freight Elevator Erected 1888. in Warehouse of C.M.& St.P. RR Chicago. Capacity 600 Barrels per hour.
J. MANZ & CO. CHICAGO

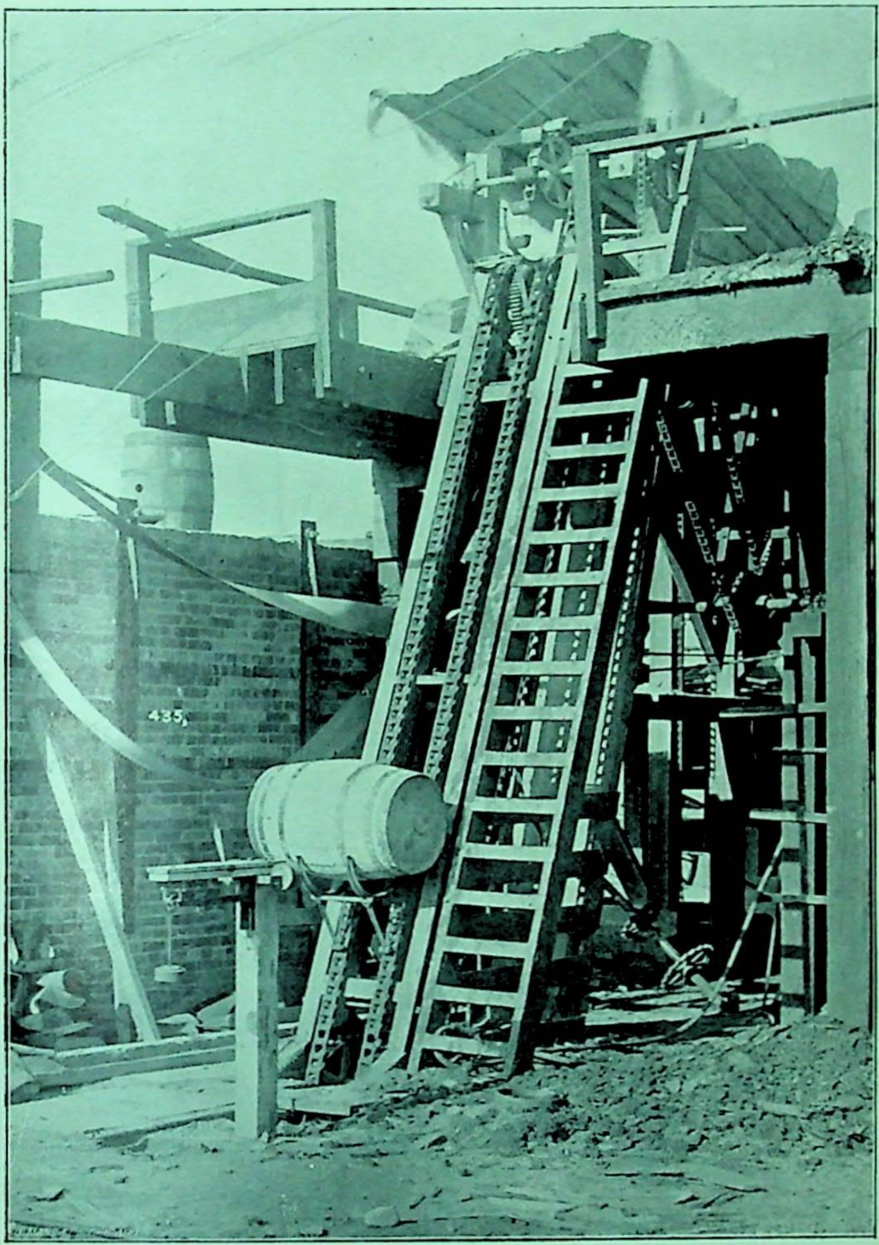
CONTINUOUS FREIGHT ELEVATOR WITH AUTOMATIC DISCHARGE.

View shows one of four erected in 1888, in the Chicago, Milwaukee & St. Paul R'y Co.'s Warehouse at Kinzie Street Bridge, Chicago. Capacity, 600 barrels per hour.



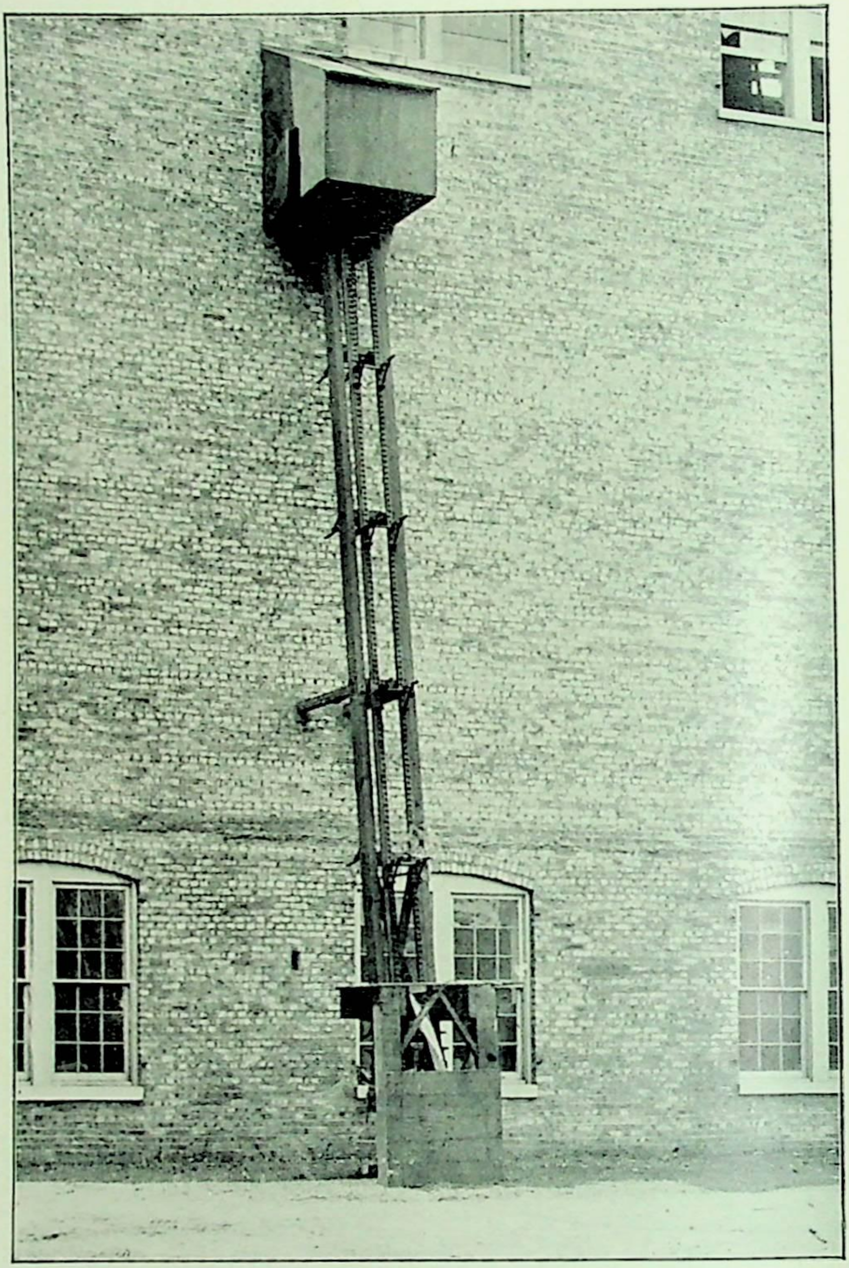
INCLINED TIERCE ELEVATOR

at works of W. J. Wilcox Lard and Ref. Co., Weehawken, N. J. Capacity, 300 per hour. Erected 1889.



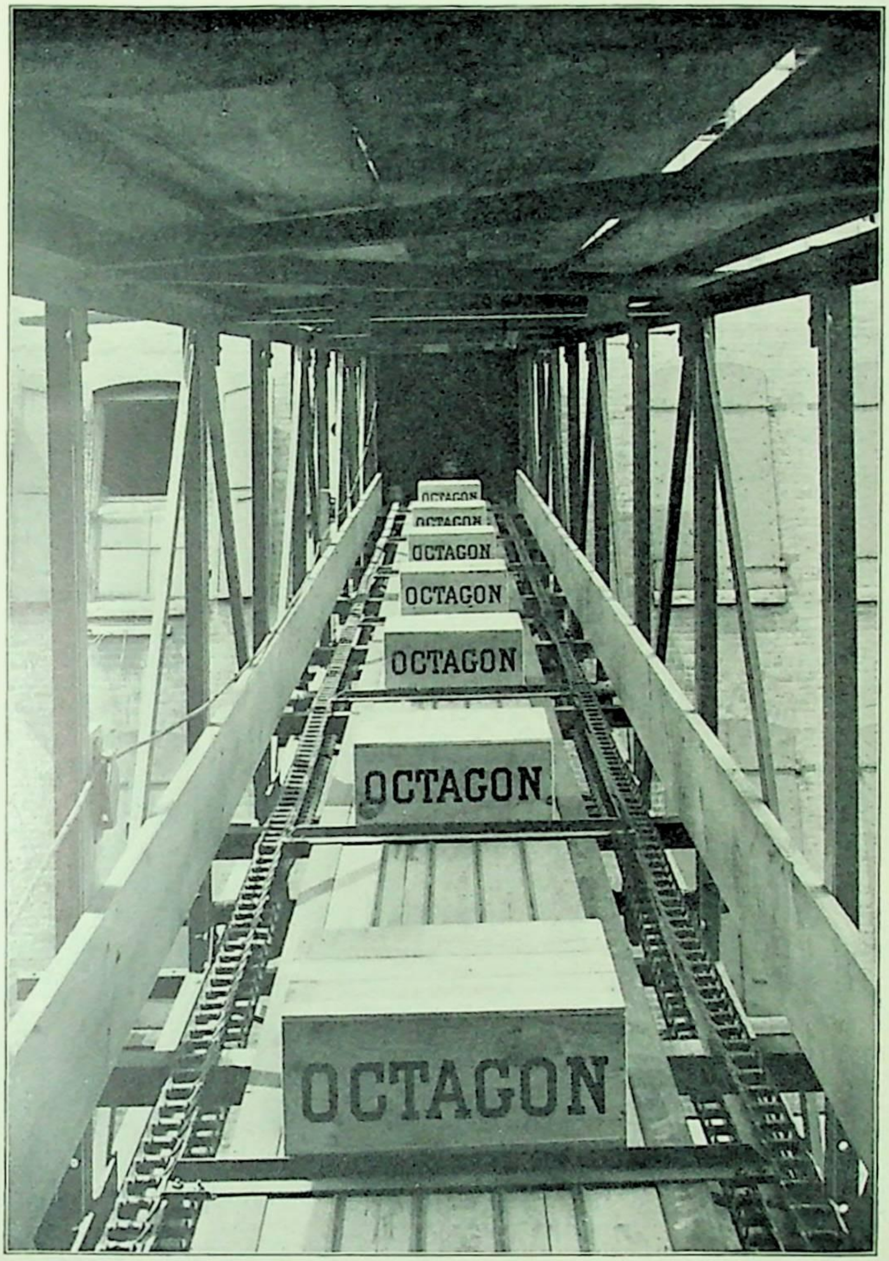
STANDARD BARREL, KEG AND SACK ELEVATOR,

handling barrels of pitch at works of Barber Asphalt Paving Co., Chicago. View also shows Sand Elevator and "Link-Belt" drive.



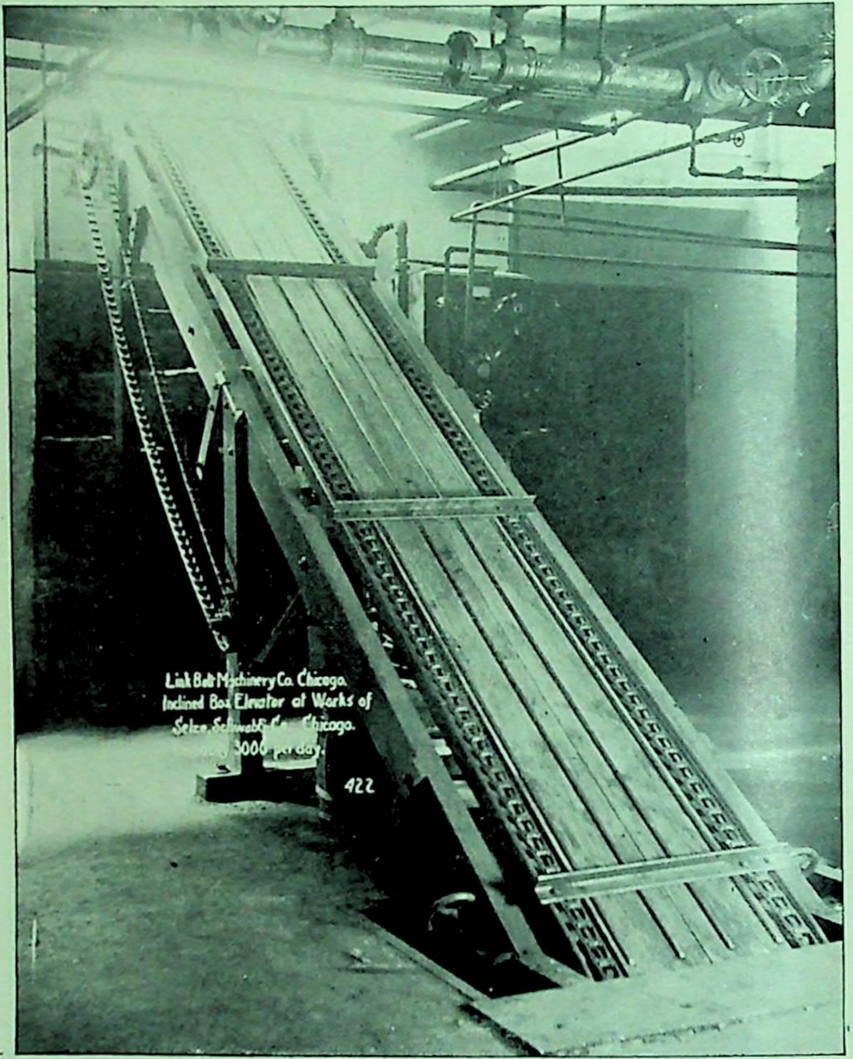
EMPTY BOX AND CRATE ELEVATOR

at plant of Libby, McNeil & Libby, Union Stock Yards, Chicago. This type of elevator may be constructed of any height, its capacity being limited only by number of arms used.



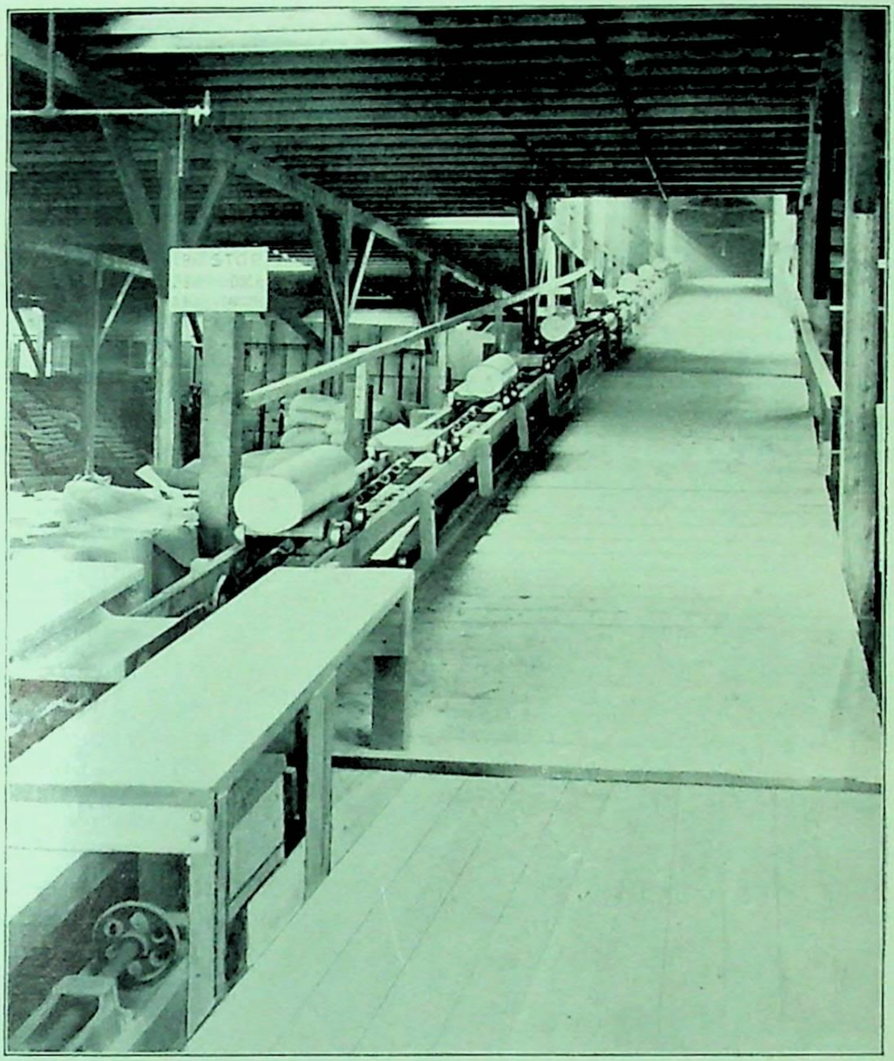
SOAP BOX CONVEYOR

In factory of Colgate & Co., Jersey City, N. J. Transports boxes from one building to another.


Link Belt Machinery Co. Chicago.
Inclined Box Elevator at Works of
Selz, Schwab & Co. Chicago.
3000 per day.
422

INCLINED FREIGHT CARRIER

Designed for transferring miscellaneous freight from basements to sidewalk. Carriers of this type have been installed for Selz, Schwab & Co., Sweet, Dempster & Co., G. P. Gore & Co., M. D. Wells & Co., J. V. Farwell & Co. of Chicago, and many others.



PACKAGE CONVEYOR

transporting rolls of roofing felt from main building up an incline, across street so as not to interfere with traffic, then making a gradual descent to dock, a distance of over 300 feet, at works of Mica Roofing Co., Brooklyn, N. Y. Dodge chain employed.

THE LINK-BELT MACHINERY CO.'S MODERN METHODS OF COALING LOCOMOTIVES

Have Received the Unqualified Endorsement of some of the Most Progressive Railroad Officials in the country because:

Coaling Stations built upon our system are more compact and occupy less ground space than any other.

While preserving all their special advantageous features, they can be adapted to any arrangement of tracks or available ground.

These advantages especially commend them for large terminals where many locomotives are coaled daily, and where ground is valuable.

Fewer men are required to operate the Station, and their services are needed but a small part of the day. The coal is handled much more rapidly and at a much less cost per ton than by any other method.

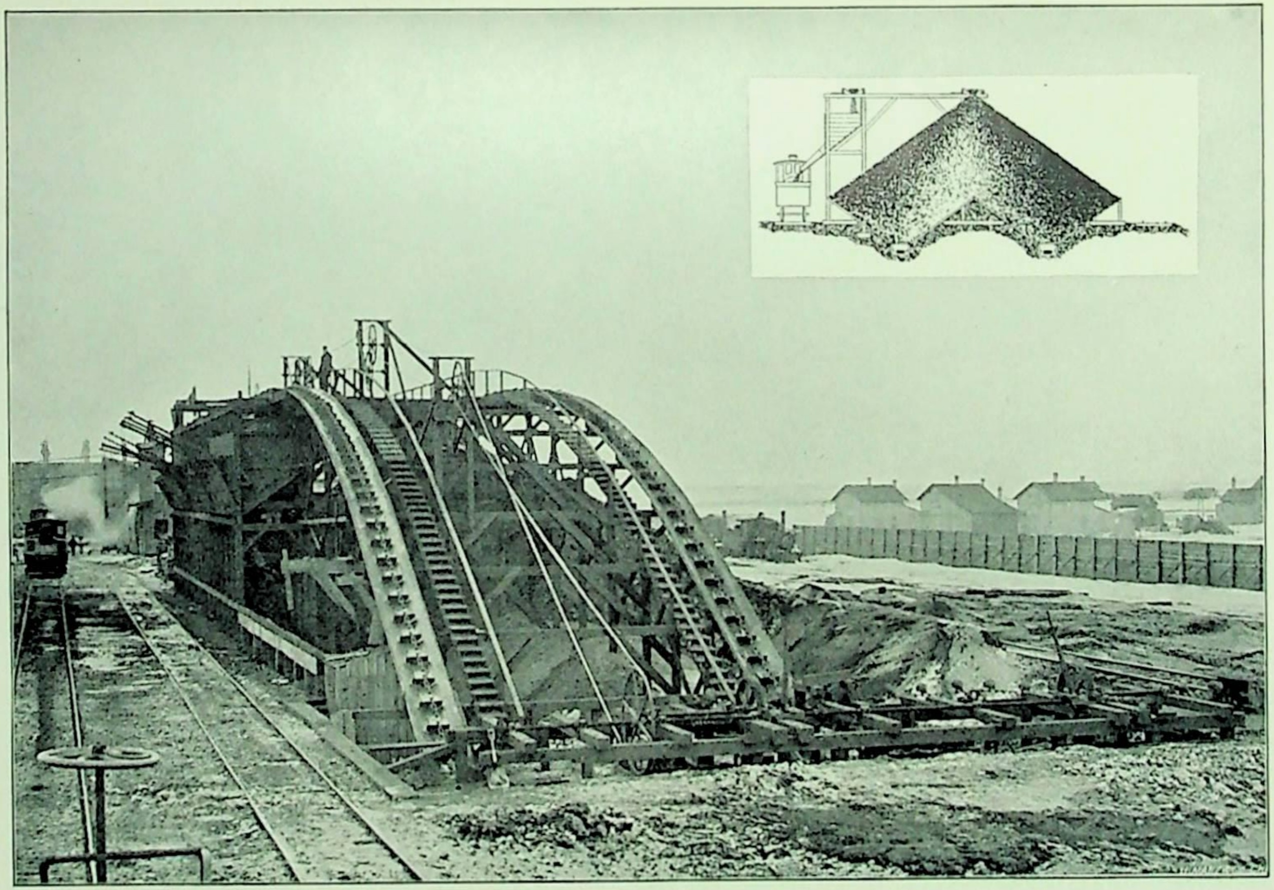
The cost of maintenance is low, as the cars are not run up on the structure, with the accompanying rapid deterioration and necessity for repairs.

A large quantity of coal may be carried in storage to provide against strikes, heavy storms and other emergencies; the ease and economy with which the coal is elevated making it possible to carry this storage even where ground space is very limited, and to take the coal as needed from storage to the chutes at merely nominal cost. The carrying of any amount of coal in storage *by any other system* is practically prohibited by the excessive cost and loss of time in rehandling from storage to coaling chutes.

The necessity for the long Cinder Pit, from which the ashes have to be shoveled by hand, and for the depressed track, is avoided. The Cinder Pit is short and the ashes are removed by Conveyor in the bottom of it, and raised by mechanical means, with the consequent saving of time and expense over the old hand methods.

LINK-BELT Coaling Stations are now in operation upon following railroads:

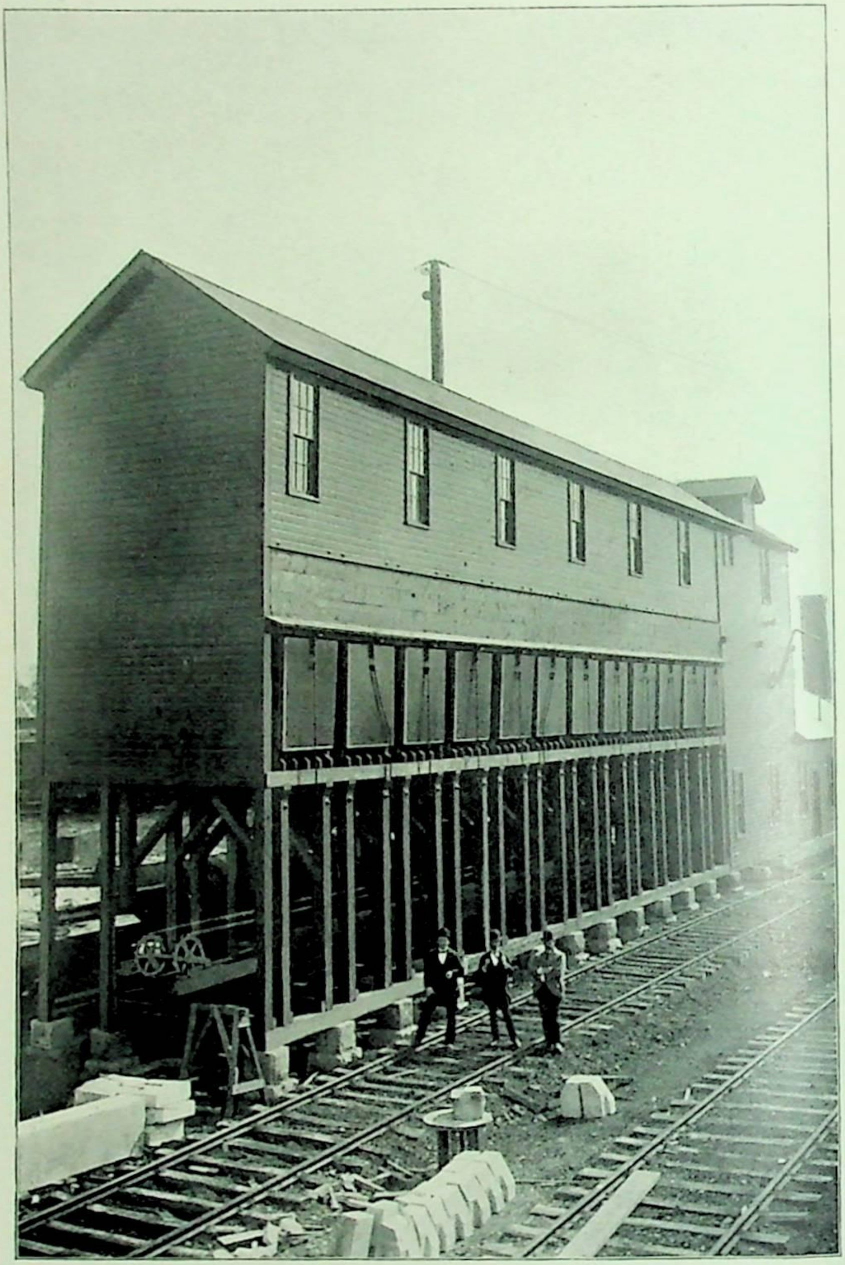
Cleveland, Cincinnati, Chicago & St. Louis Ry.	Urbana, Ill.
Cleveland, Cincinnati, Chicago & St. Louis Ry.	Wabash, Ind.
New York Central & Hudson R. R.R.	Croton, N. Y.
New York Central & Hudson R. R.R.	East Albany, N. Y.
New York Central & Hudson R. R.R.	Lyons, N. Y.
Chicago & West Michigan Ry.	New Buffalo, Mich.
Northern Pacific Ry.	Fargo, N. D.
Northern Pacific Ry.	Drayton, N. D.
Philadelphia & Reading R.R. Co.	Philadelphia, Pa.



COALING STATION.

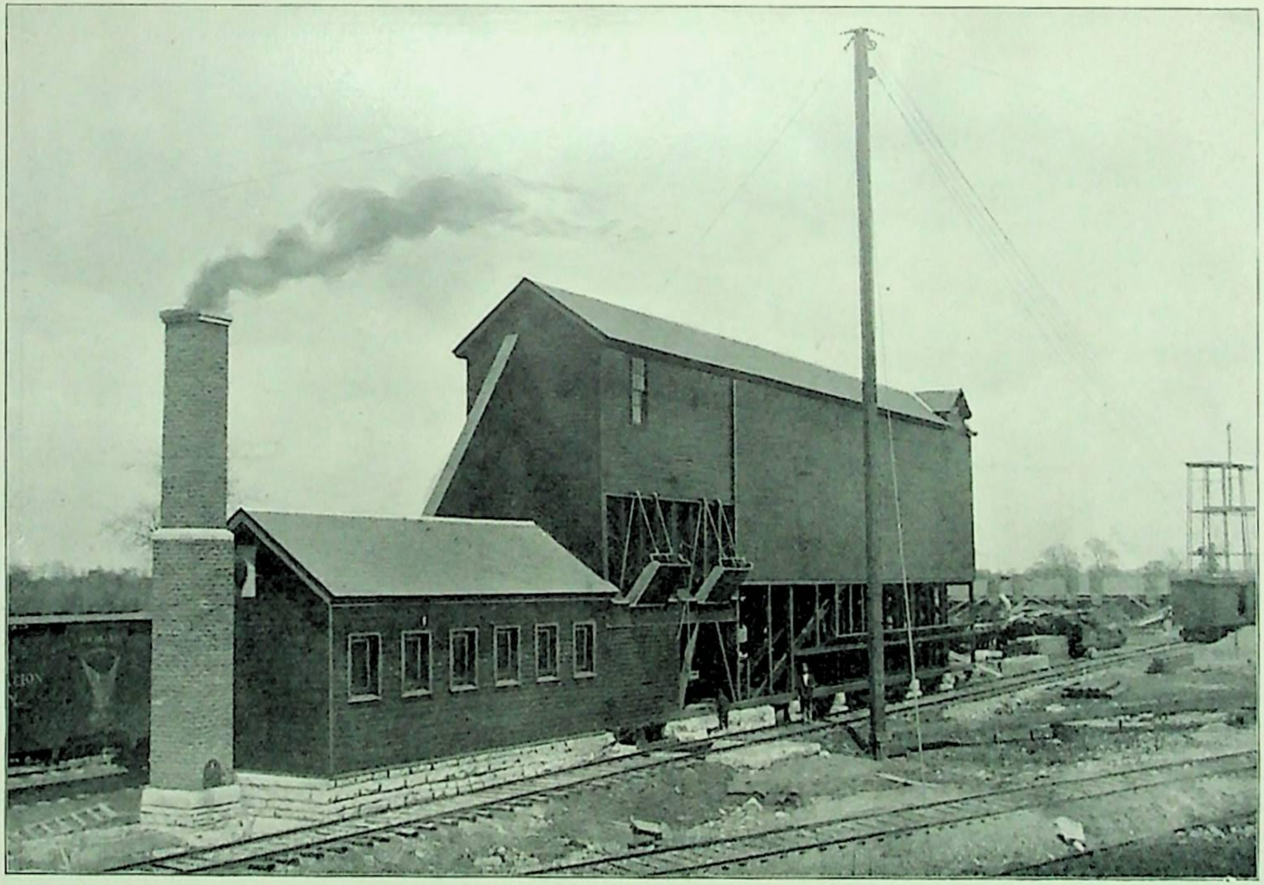
Erected 1894, Fargo, N. Dak., for Northern Pacific Railway Company. One run of upper Conveyor is for stocking coal, the other for distributing into chutes. Lower Conveyor delivers coal from storage. Each conveyor is 600 feet long, and has capacity of 120 tons "run of mine" coal per hour. Storage capacity, 3,500 tons.

"This is the one Coaling Station which combines economy in storage and economy in handling coal. All other plants of which I have any knowledge fail to fulfill these conditions; if the cost of the structure per ton of storage is low, the cost of handling the coal is high, and vice versa.—*Extract from letter of E. H. McHenry, Chief Engineer Northern Pacific Railway Co.*



COALING STATION.

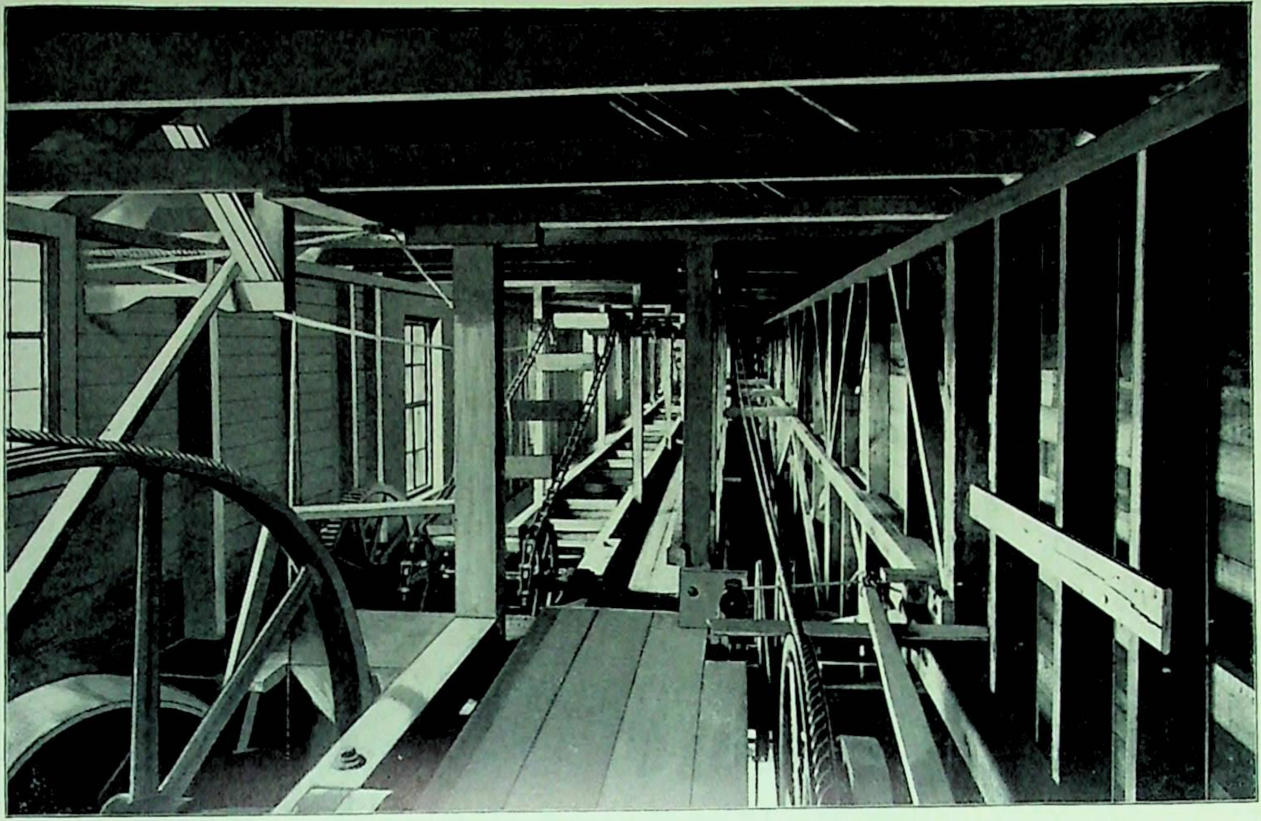
Cleveland, Cincinnati, Chicago and St. Louis Railway, Urbana, Ill. Erected 1898. View shows 12 chutes and cinder pit, also the sand house. The ashes are carried automatically to a Link-Belt Elevator inside of the house, which discharges them into the pockets (as shown in view on opposite page) for delivery to cars.



COALING STATION,

Cleveland, Cincinnati, Chicago & St. Louis Ry., Urbana, Ill.

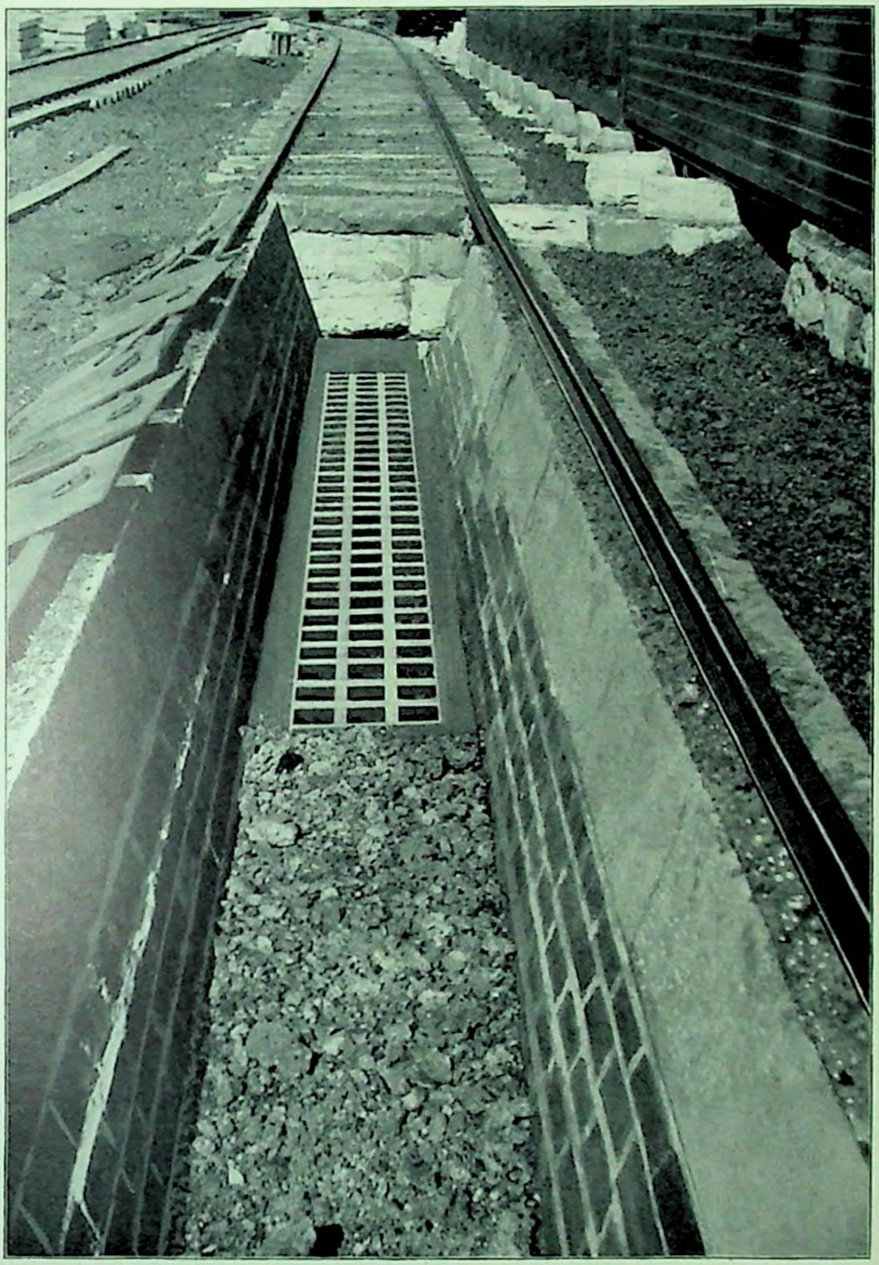
View shows Coal receiving hopper at right and two-pocket Ashes receiving hoppers at center of the picture.



Interior view of Cleveland, Cincinnati, Chicago & St. Louis Ry.

COALING STATION.

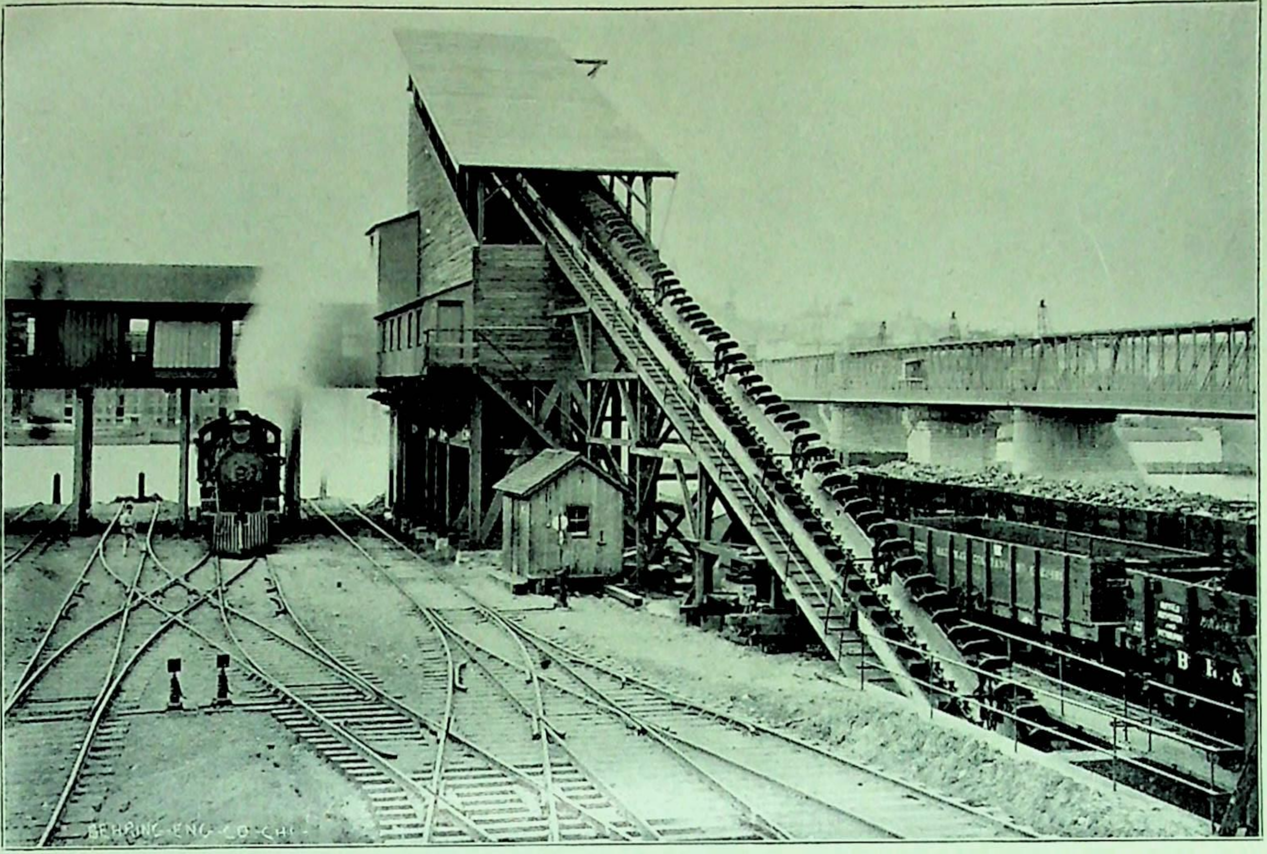
Showing on the left Distributing Conveyor over 12 chutes, also Inclined Coal Conveyor on the right, which delivers coal from cars to distributing conveyor. View also shows the transmission of power by manila ropes, which very greatly simplifies the power equipment.



Coaling Station, Cleveland, Cincinnati, Chicago & St. Louis Ry.

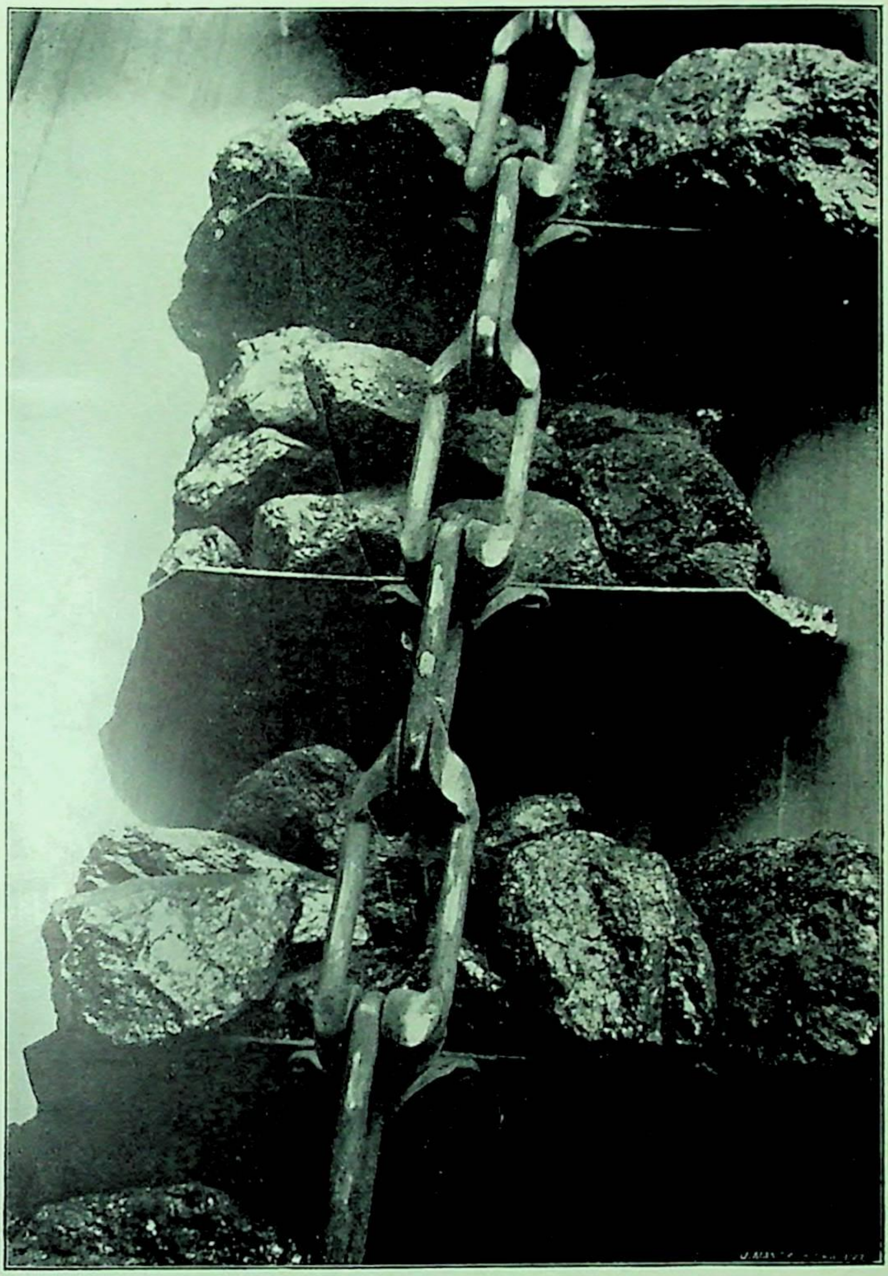
CINDER PIT

showing bottom plates removed, exposing the grating through which cinders are delivered to Conveyor underneath, which carries the ashes to Link-Belt Elevator, discharging to ashes pockets seen in view on page 25.



COALING STATION.

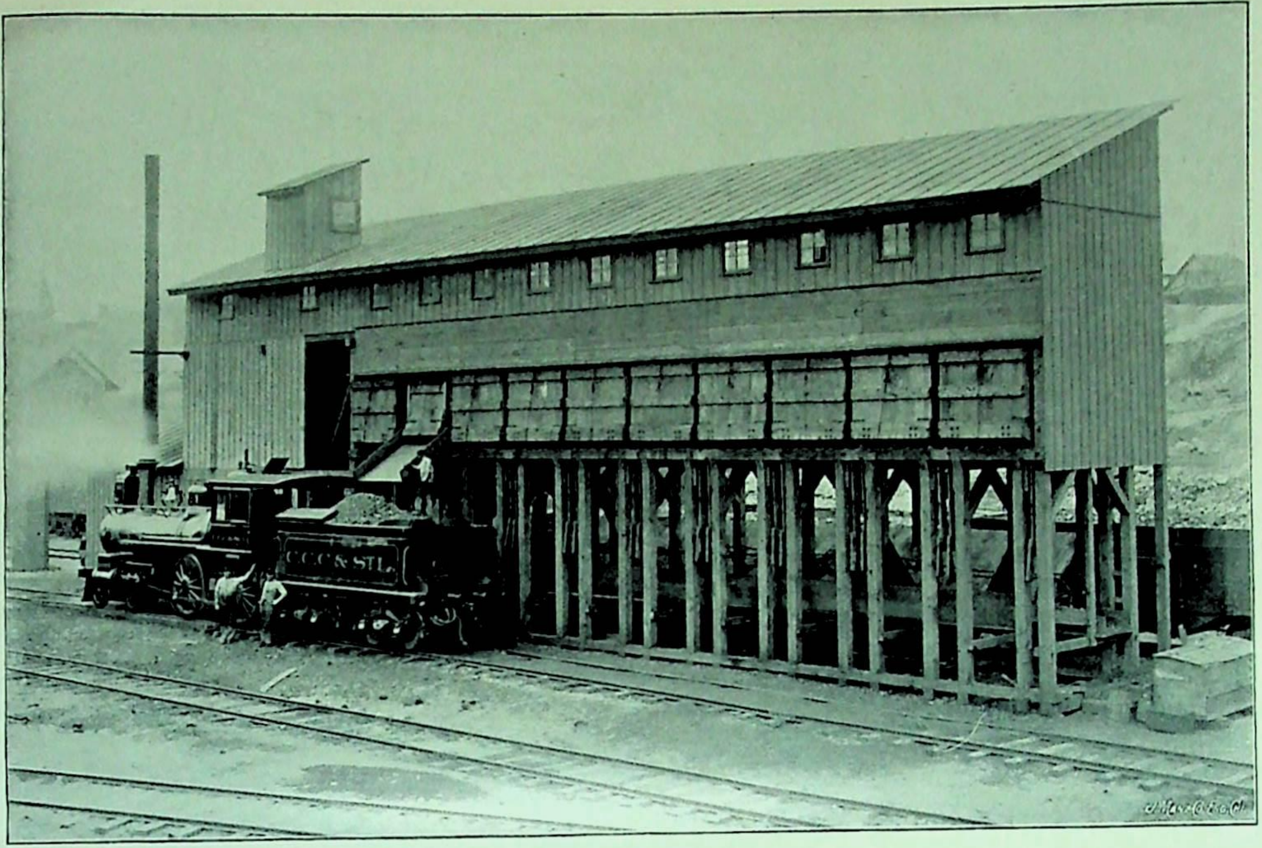
Erected 1894, East Albany, N. Y., for the New York Central & Hudson River R. R. Co. Provided with Coaling Bridge, Weighing Hoppers and power Winch for moving cars. Chutes hold 180 tons. Capacity of Conveyor, 80 tons "run of mine" bituminous coal per hour,



Section of

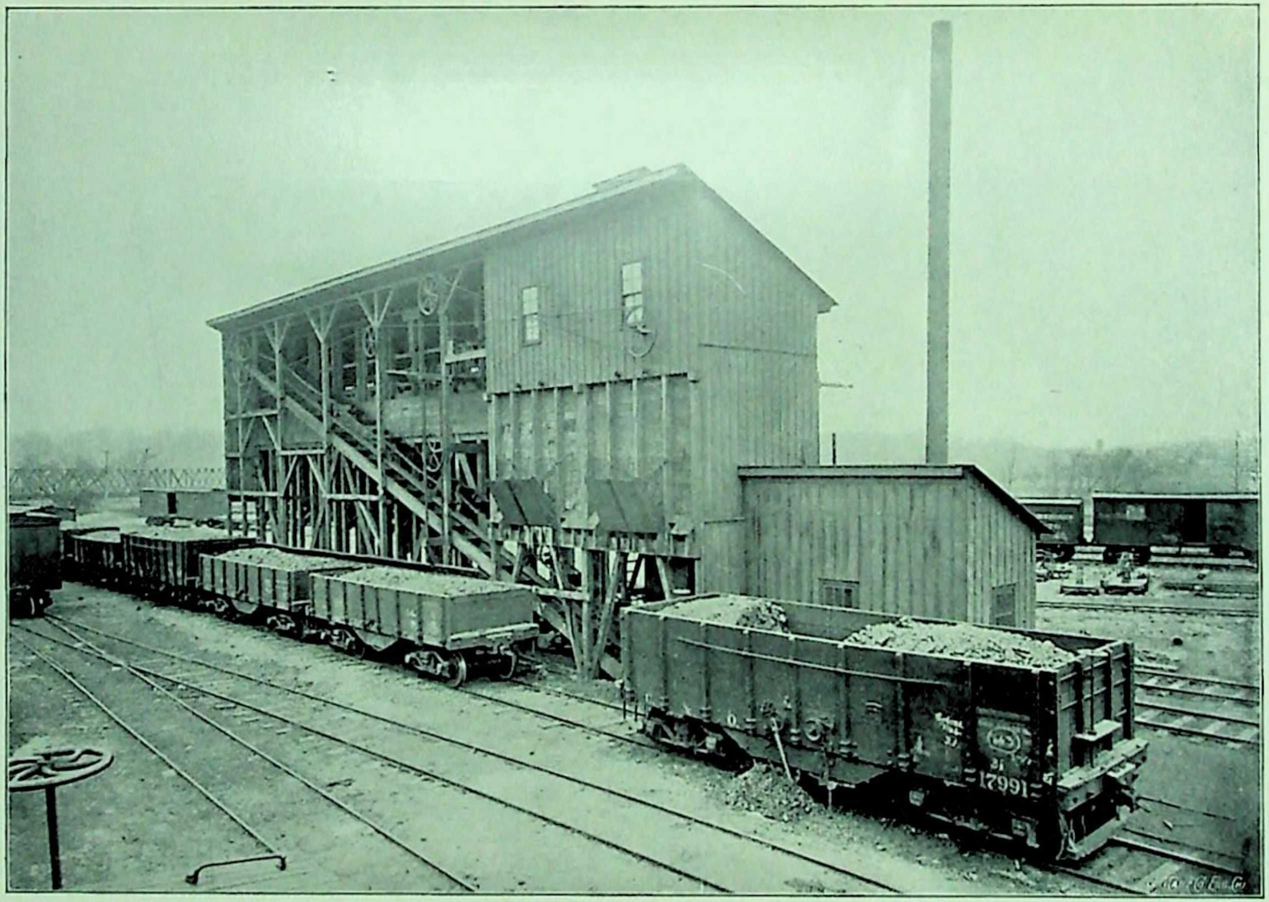
INCLINED DODGE CONVEYOR

Carrying lump anthracite coal, at East Albany, N. Y., coaling station N. Y. C. & H. R. R.R.



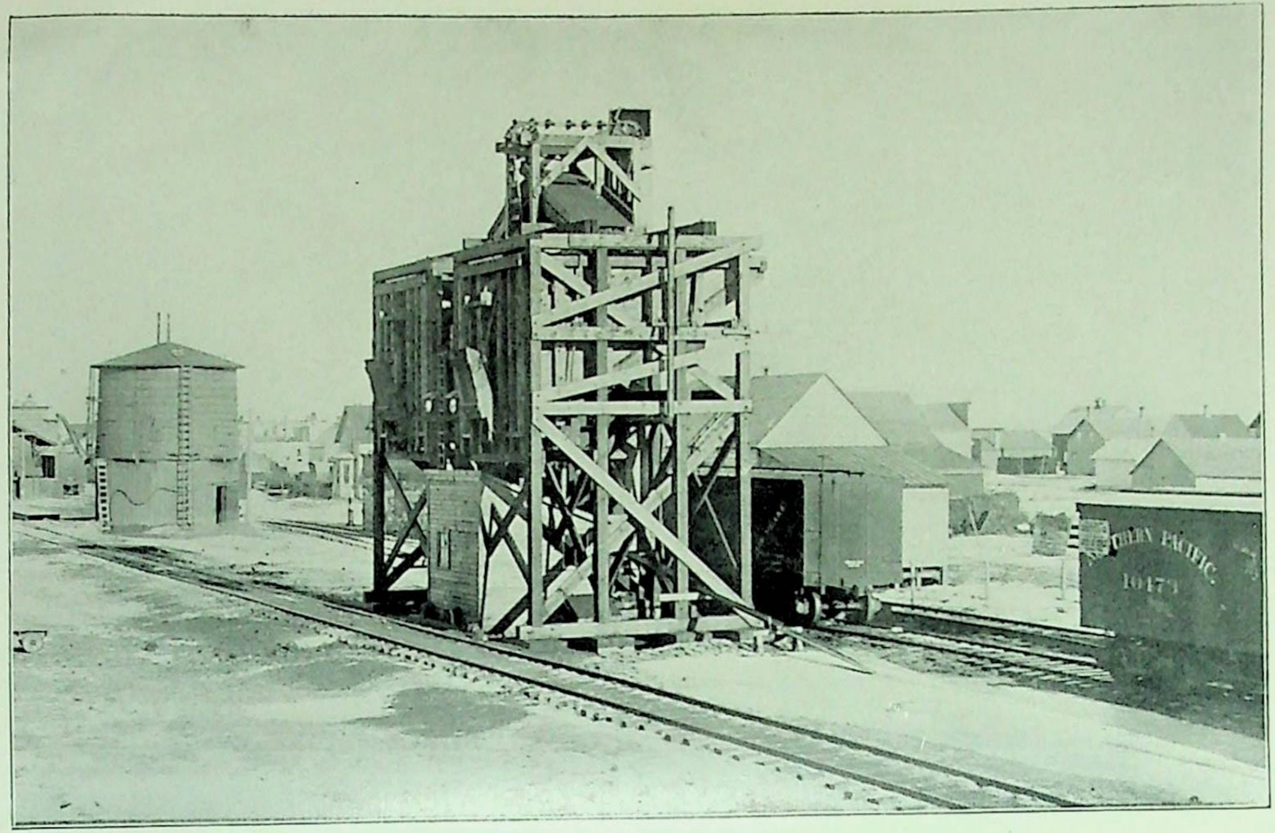
COALING STATION.

Erected 1895, Wabash, Ind., for Cleveland, Cincinnati, Chicago & St. Louis Railway. View shows locomotive receiving coal from Automatic Chutes. The Conveyor for receiving coal from cars is located beneath the chutes. The locomotive stands over Cinder Pit, in the bottom of which is Conveyor, which delivers ashes to Elevator (a portion of which projects above house), discharging same into pockets shown in cut on opposite page.



COALING STATION.

Erected 1895, Wabash, Ind., for Cleveland, Cincinnati, Chicago & St. Louis Railway. (Above view is from opposite side of coal pocket.) When hopper bottom cars are employed, the coal is dumped through track hopper. When ordinary flat bottom cars are used, coal is shoveeld over side of car into horizontal Receiving Conveyor, as shown on opposite page, and delivered thence to Inclined Conveyor, and in turn to Distributing Conveyor at top of house. The two large chutes shown on this side of pocket are for delivering ashes into cars.



COALING STATIONS

View shows one of a number of small erected for the Northern Pacific Railway. Coal is dumped into hopper under track and elevated by a Link-Belt Patent Gravity Discharge Elevator which delivers the coal to pockets. Power is supplied by a 2½ horse power gasolene engine. One man can attend to this station and run water station as well. Erected 1897 at Drayton, N. D.

The Link-Belt Companies have erected more and larger COAL HANDLING MACHINERY than any other company in the world.

BY THE "DODGE SYSTEM"

(PATENTED)

Anthracite and Bituminous Coals of all sizes can be stocked and reloaded more rapidly, with less expense and less breakage, than by any other method.

The following plants are in operation:

Philadelphia & Reading Railroad Co., Port Richmond, Philadelphia, anthracite, storage capacity, 80,000 tons.

Pennsylvania Railroad Co., South Amboy, N. J., anthracite, storage capacity, 100,000 tons.

Pennsylvania Railroad Co., South Amboy, N. J. (second plant), anthracite, storage capacity, 90,000 tons.

Delaware & Hudson Canal Co., Oneonta, N. Y., anthracite, storage capacity, 20,000 tons.

Delaware & Hudson Canal Co., Rondout, N. Y., anthracite, storage capacity, 120,000 tons.

Delaware & Hudson Canal Co., Quaker Street, New York, anthracite, storage capacity, 120,000 tons.

Central Railroad of New Jersey, Hampton Junction, N. J., anthracite, storage capacity, 180,000 tons.

Central Railroad of New Jersey, Salem, Mass., anthracite, storage capacity, 80,000 tons.

Lehigh Valley Coal Co., South Plainfield, N. J., anthracite, storage capacity, 310,000 tons.

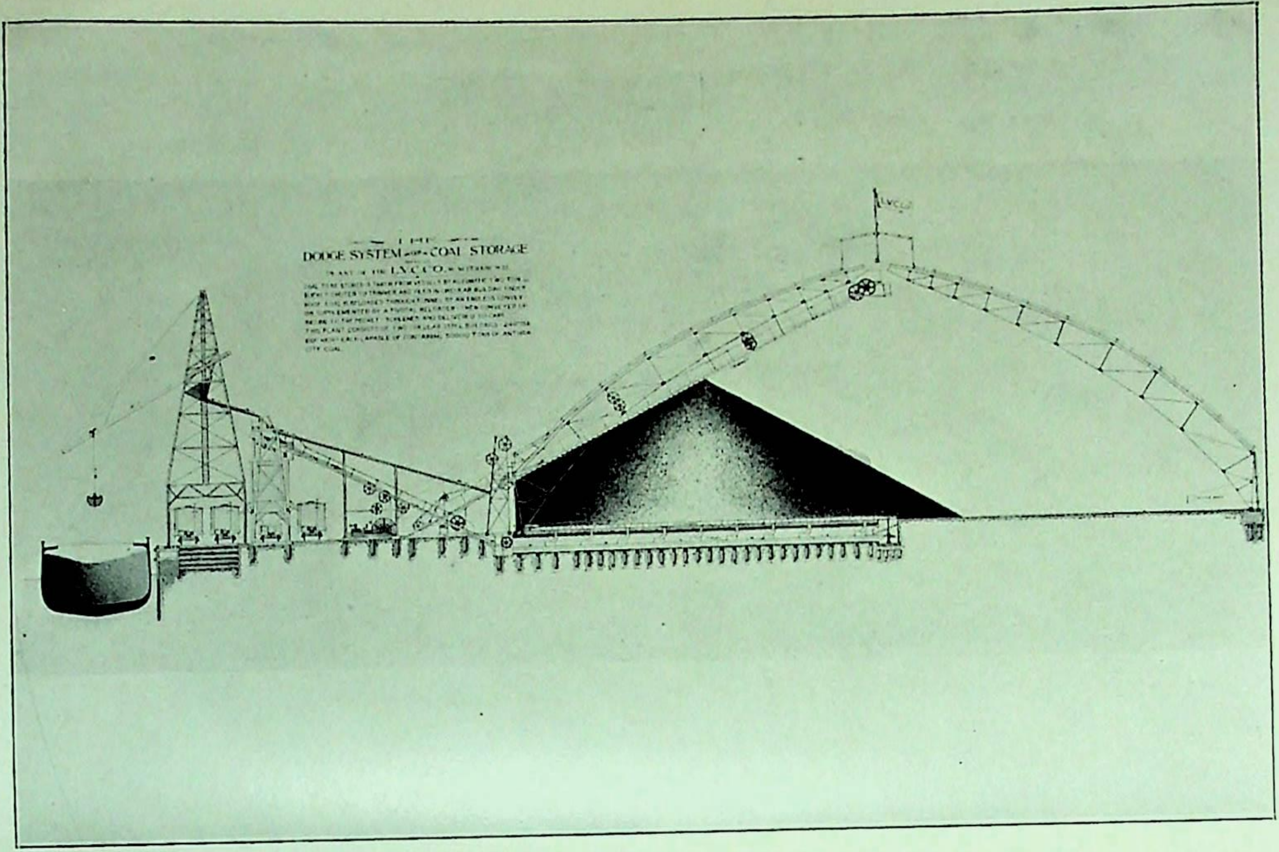
Gas Light & Coke Co., Fulham, London, England, bituminous, storage capacity, 30,000 tons.

Lehigh Valley Coal Co., West Superior, Wis., bituminous and anthracite, storage capacity, 145,000 tons.

Philadelphia & Reading Railroad Co., Port Richmond, Philadelphia, anthracite, storage capacity, 180,000 tons.

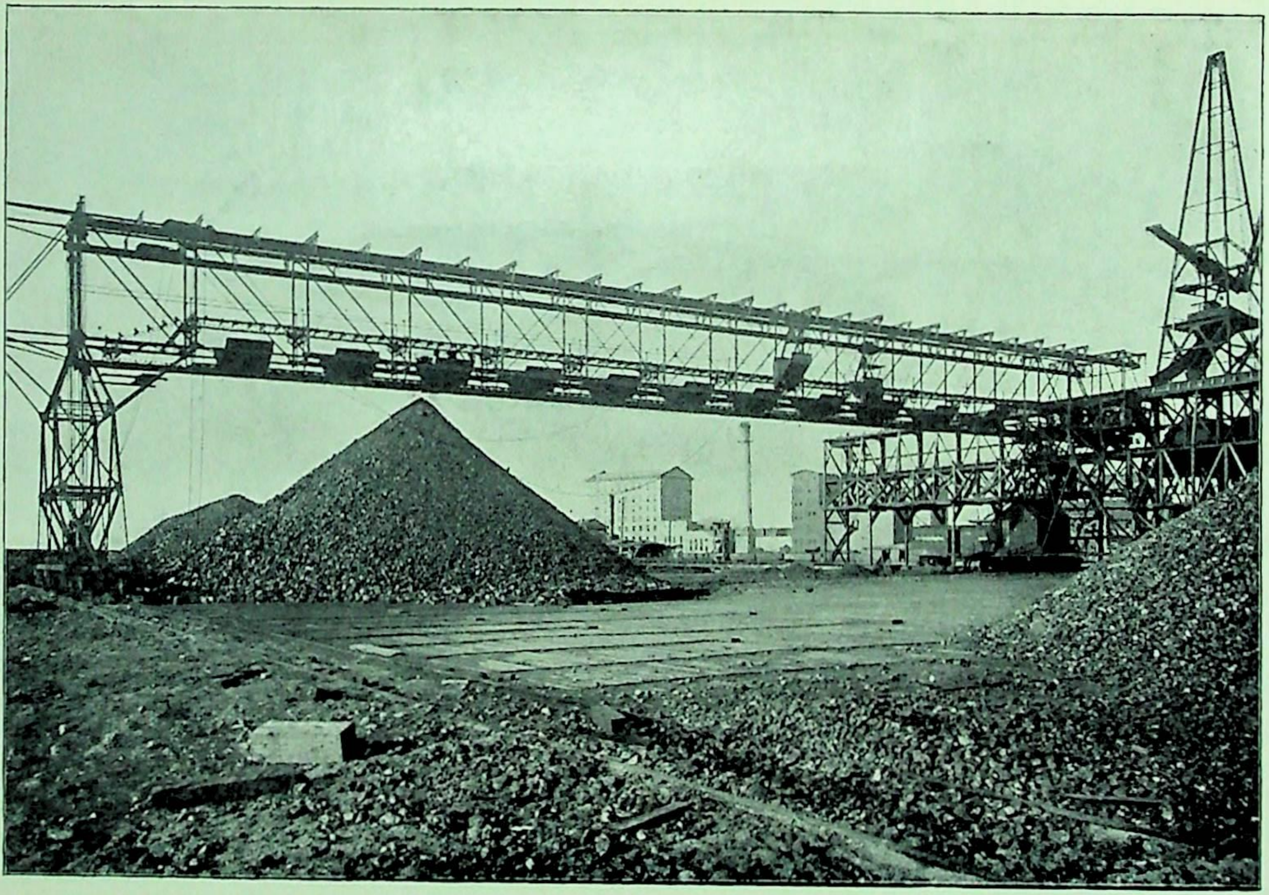
Erie Railroad Co., East Buffalo, N. Y., anthracite, storage capacity, 150,000 tons.

Pennsylvania Coal Co., Newburgh, N. Y., anthracite, storage capacity, 73,000 tons.



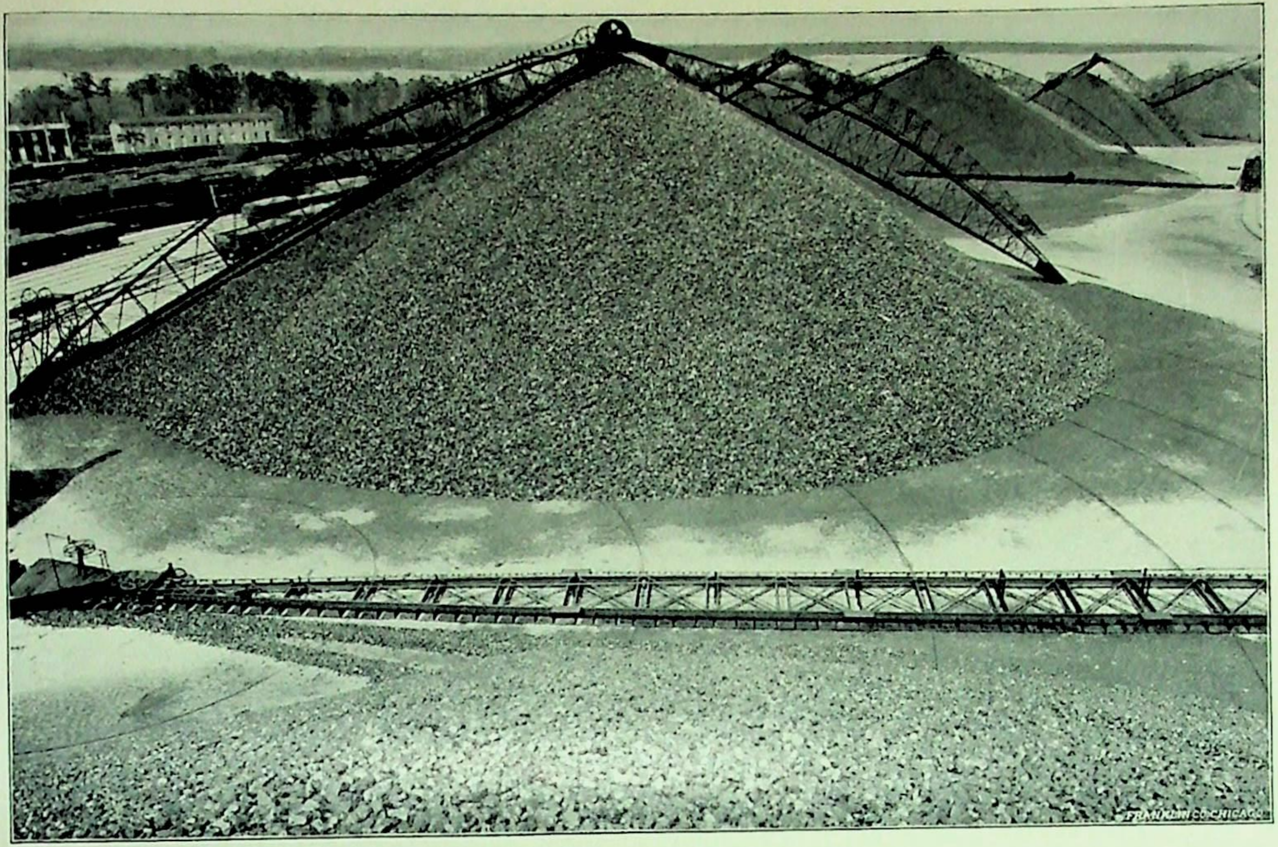
COAL STORAGE PLANT

Of the Lehigh Valley Coal Co., West Superior, Wis. Coal to be stored is taken from vessels by automatic two-ton bucket, chuted to trimmer and piled in circular building under roof. Coal is reloaded through tunnel by an endless Conveyor, supplemented by a pivotal reloader, then conveyed up incline to the pocket, screened and delivered to cars. The plant consists of two steel circular buildings, 246 feet diameter, 100 feet high, each capable of containing 50,000 tons of anthracite coal.



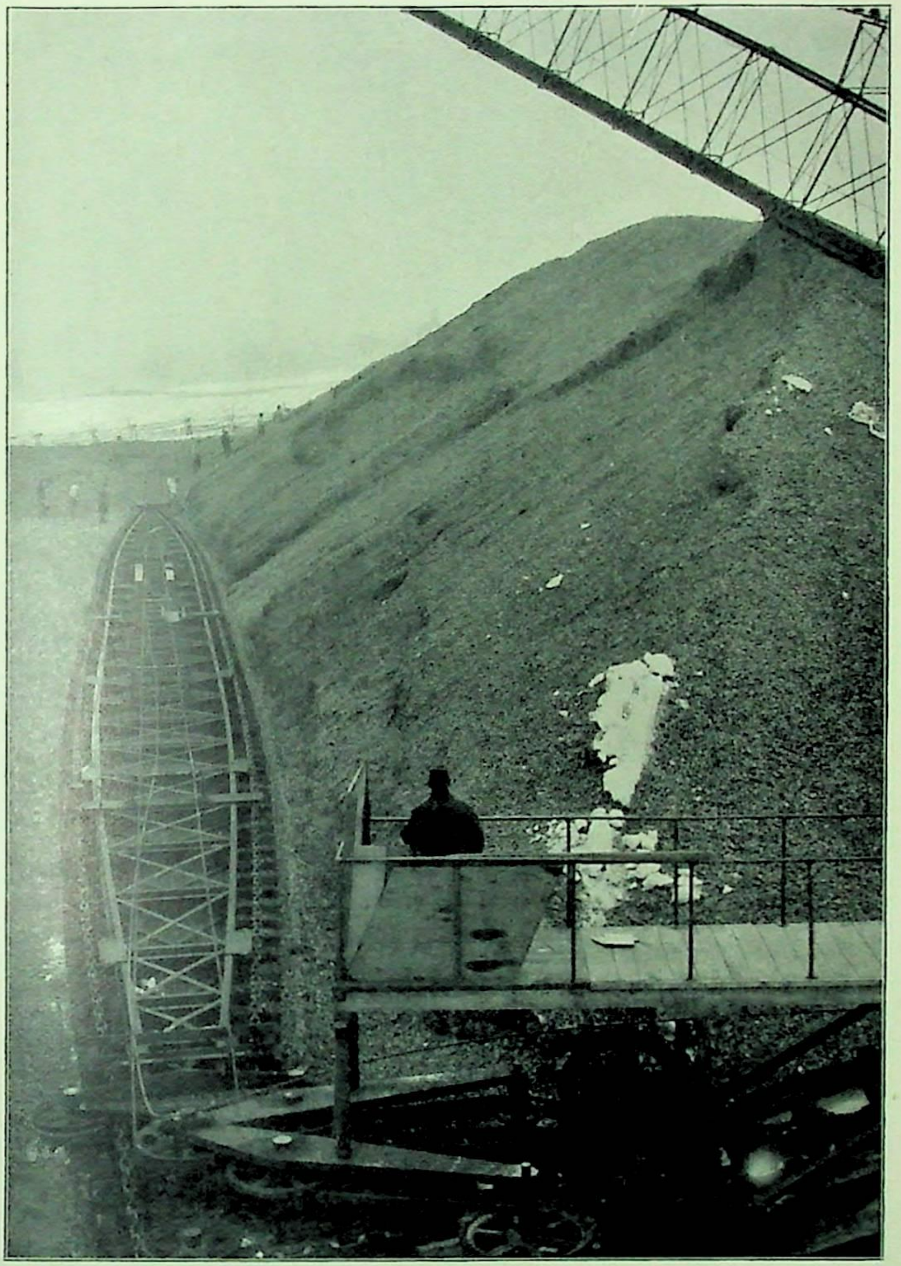
LEHIGH VALLEY COAL CO. DOCK, WEST SUPERIOR, WIS.

Traversing Conveyor, length 240 feet. Traverse distance over storage, 275 feet. Bituminous storage capacity, 45,000 tons.



General view of second
SOUTH AMBOY, N. J., COAL STORAGE PLANT (Dodge System).

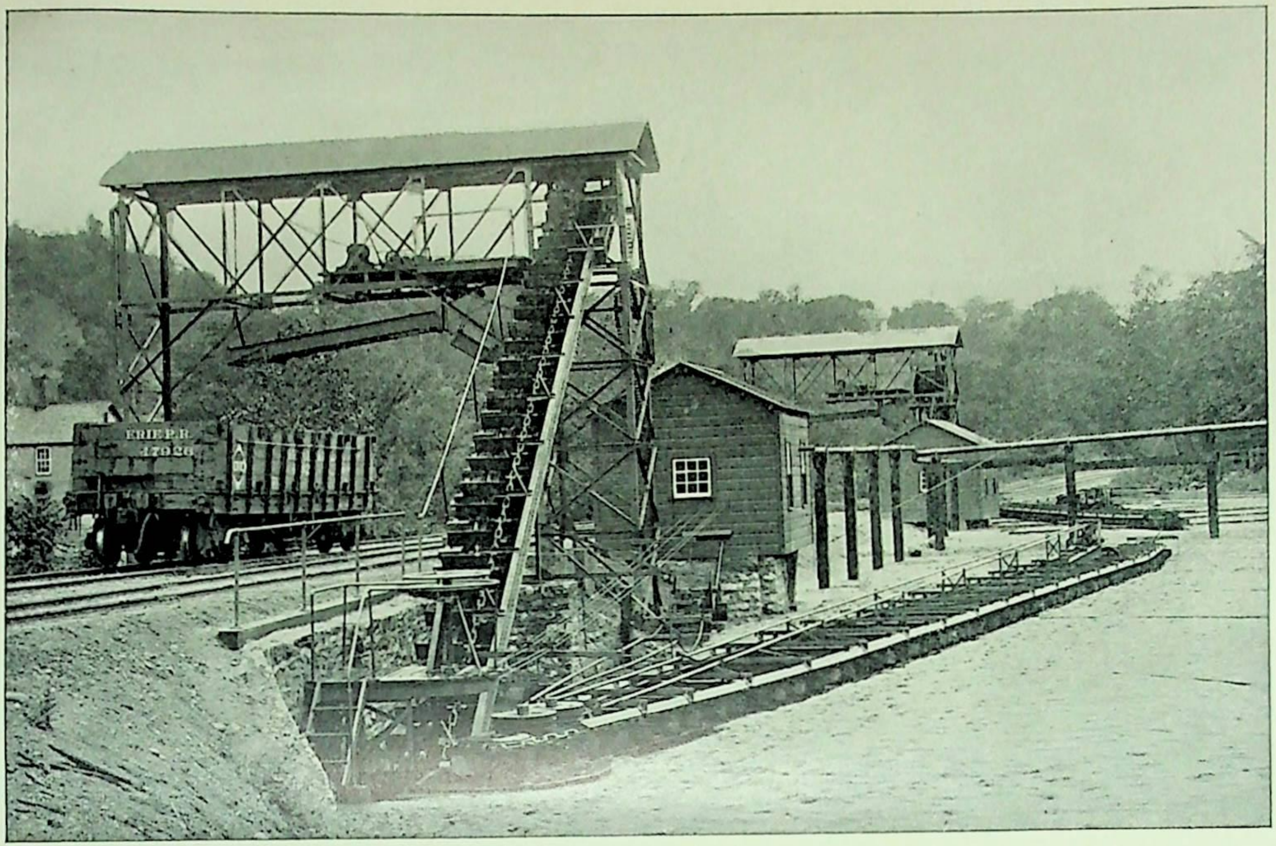
Capacity, 90,000 tons. Erected 1892, for Pennsylvania R. R. Co., as an extension of the 100,000-ton plant erected in 1889.



View showing centerplate, or pivoted end of 220 foot

RELOADER,

for 180,000 ton coal storage plant, erected 1890 for Central Railroad of New Jersey, at Hampton Junction, N. J.



DODGE RELOADER.

Horizontal portion shown is in extreme position. In reloading the pile of coal, it is swung through nearly 180 degrees, bringing it at its other extreme position nearly in direct line with the inclined Conveyor.

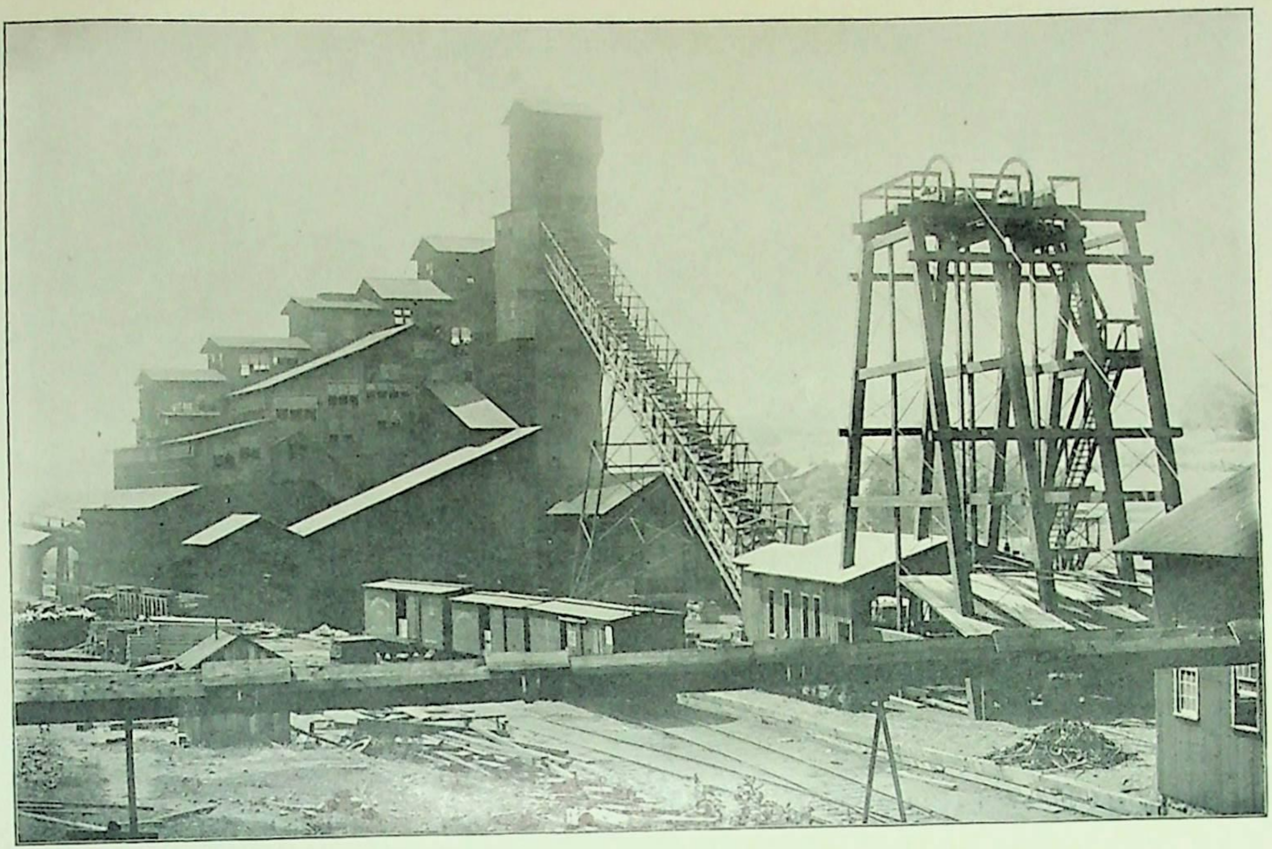
Coal and Metal Mines and Yards, Clay, Tile and Cement Manufactories.

For the handling of coal and similar material, the simplest form of conveyor is usually employed, namely, a Scraper Conveyor with steel flights of proper shape attached to the chain, and drawing the material along in a steel trough. Single or double strand of chain is employed, as may be most suitable for the capacity desired, or the size of material.

The highest development of the Scraper Conveyor is reached in the "Monobar" chain with suspended flights of the curved form, known as style "C," or of malleable iron with reinforced edges.

On following pages are shown a few typical views of modern plants. Other than these, and among the more prominent coal mining companies using our machinery, are:

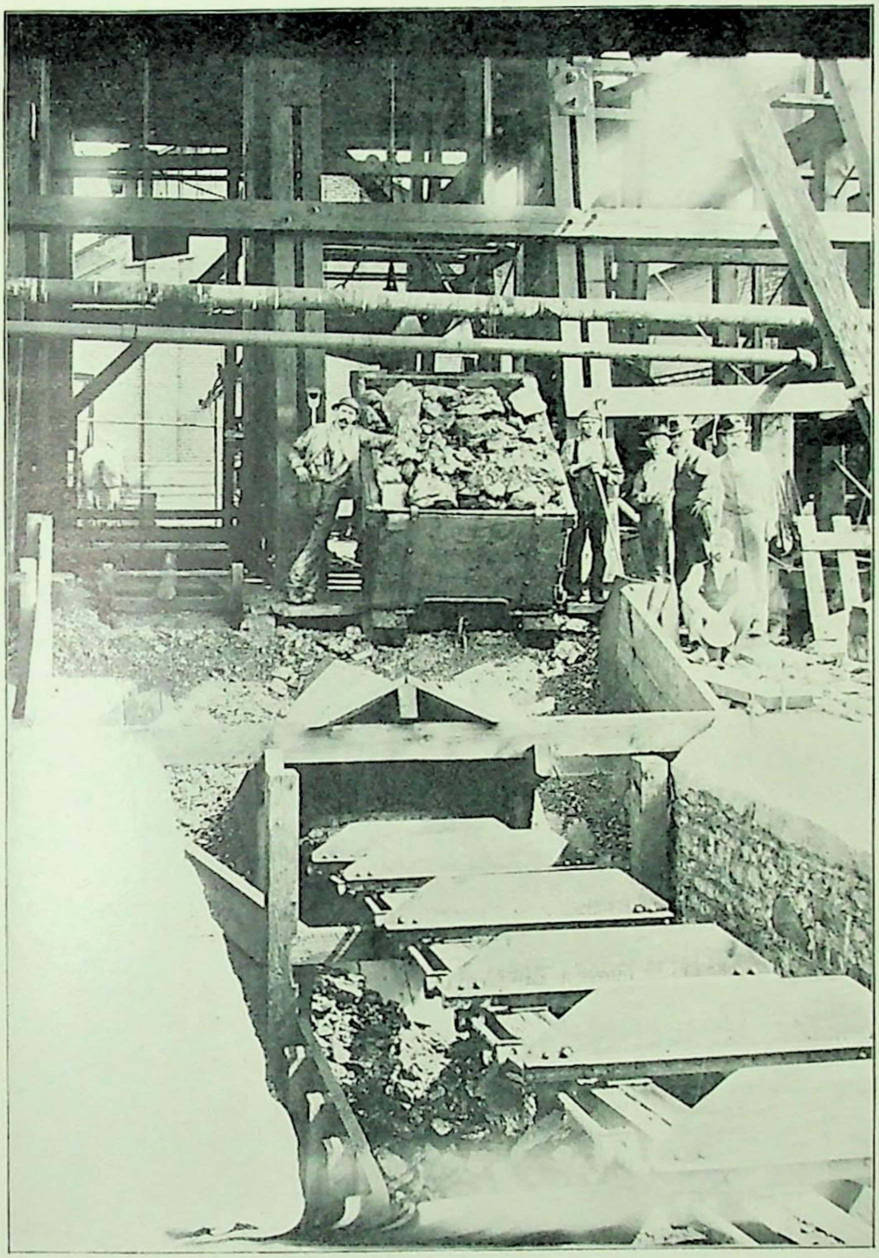
Tennessee Coal, Iron and R.R. Co.	Birmingham, Ala.
Victor Coal Co.	Trinidad, Colo.
Pana Coal Co.	Pana, Ill.
Pennsylvania Coal Co., Ewen Breaker	Wilkesbarre, Pa.
Mineral R.R. and Mining Co., Luke Fiddler Colliery	Shamokin, Pa.
Delaware, Lackawanna and Western R.R., Bliss Colliery	Nanticoke, Pa.
Consolidated Coal Co. of St. Louis	St. Louis, Mo.
Chicago, Wilmington and Vermillion Coal Co.	Streator, Ill.
Chicago-Virden Coal Co.	Virden, Ill.
LaSalle County Consolidated Coal Co.	LaSalle, Ill.
Wabash Coal Co.	Wabash, Ill.
Anaconda Coal Mining Co.	Belt, Mont.
Roane Iron Co.	Rockwood, Tenn.
Red Ash Coal Co.	Rush Run, W. Va.
Sun Coal and Coke Co.	Thurmond, W. Va.
Cambria Coal Co.	Cambria, Wyo.
Felix Coal Co.	Sheridan, Wyo.
Choctaw, Ok., & Gulf R.R. Co.	New Macalister, I. T.



COAL CONVEYOR

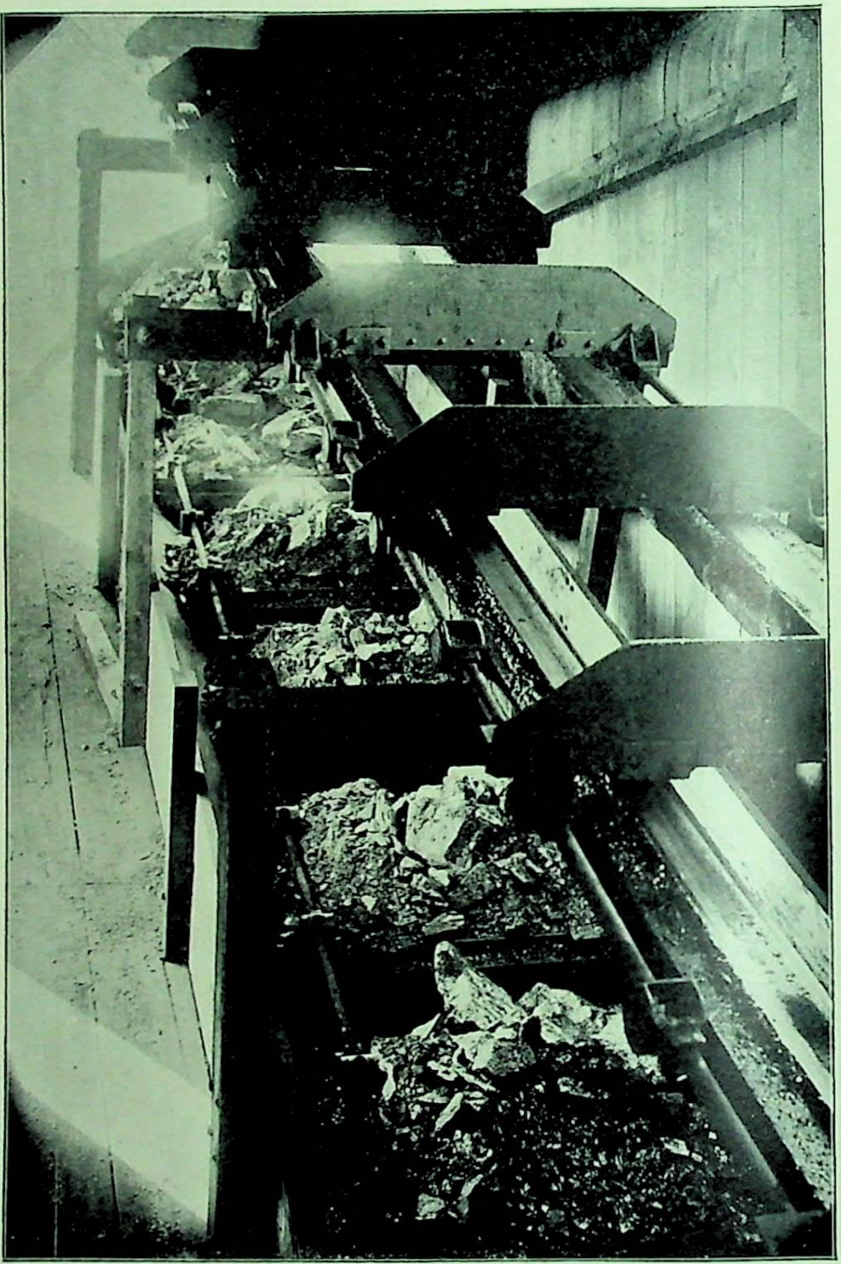
at Boston Breaker of Delaware & Hudson Canal Co., Wilkesbarre, Pa.. Length, 272 ft., ground level to top of breaker. Capacity, 4 tons run-of-mine coal per minute. Double strand No. 1024 "Monobar" chain employed.

The following two views show the conveyor in detail.



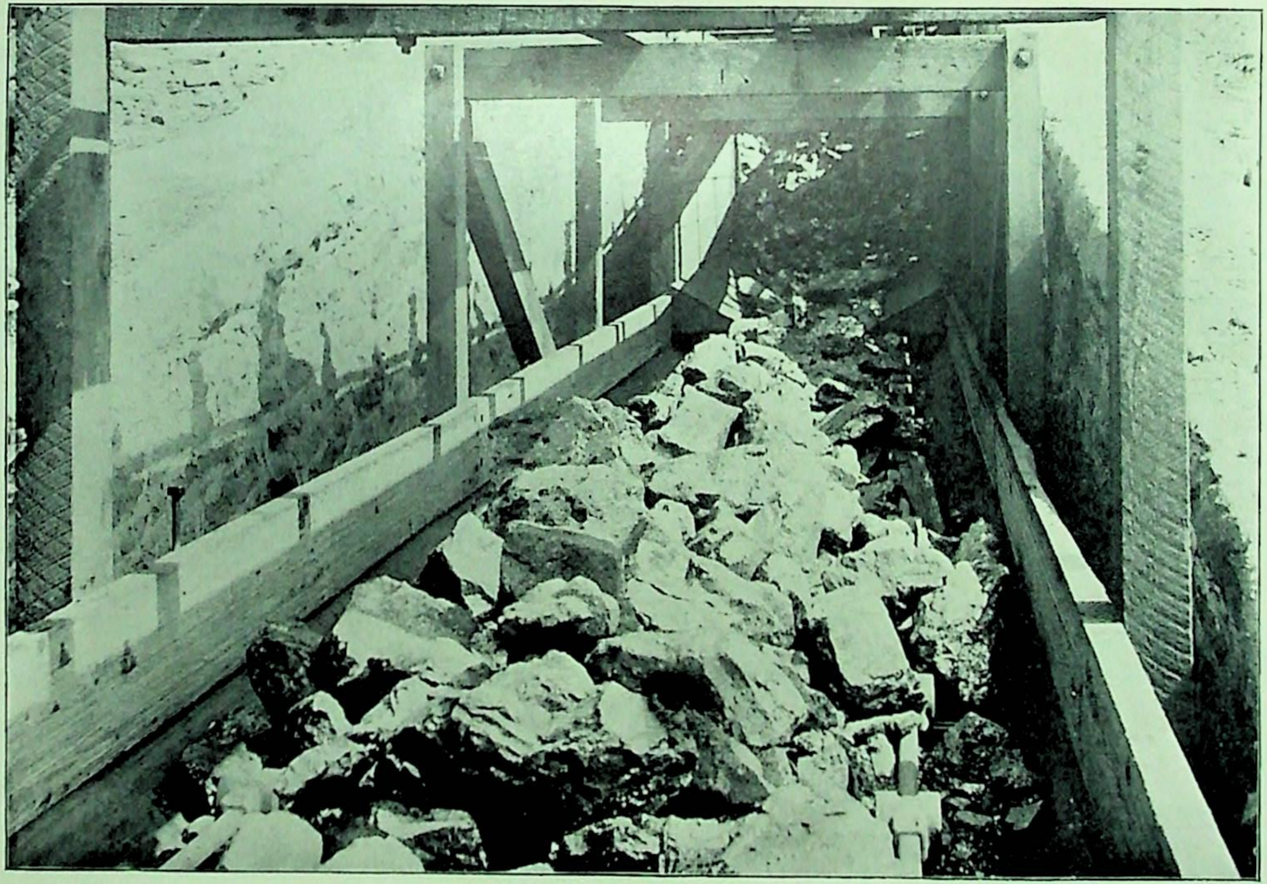
COAL CONVEYOR

At Boston Breaker of Delaware & Hudson Canal Co., Wilkesbarre, Pa., showing tipple end.



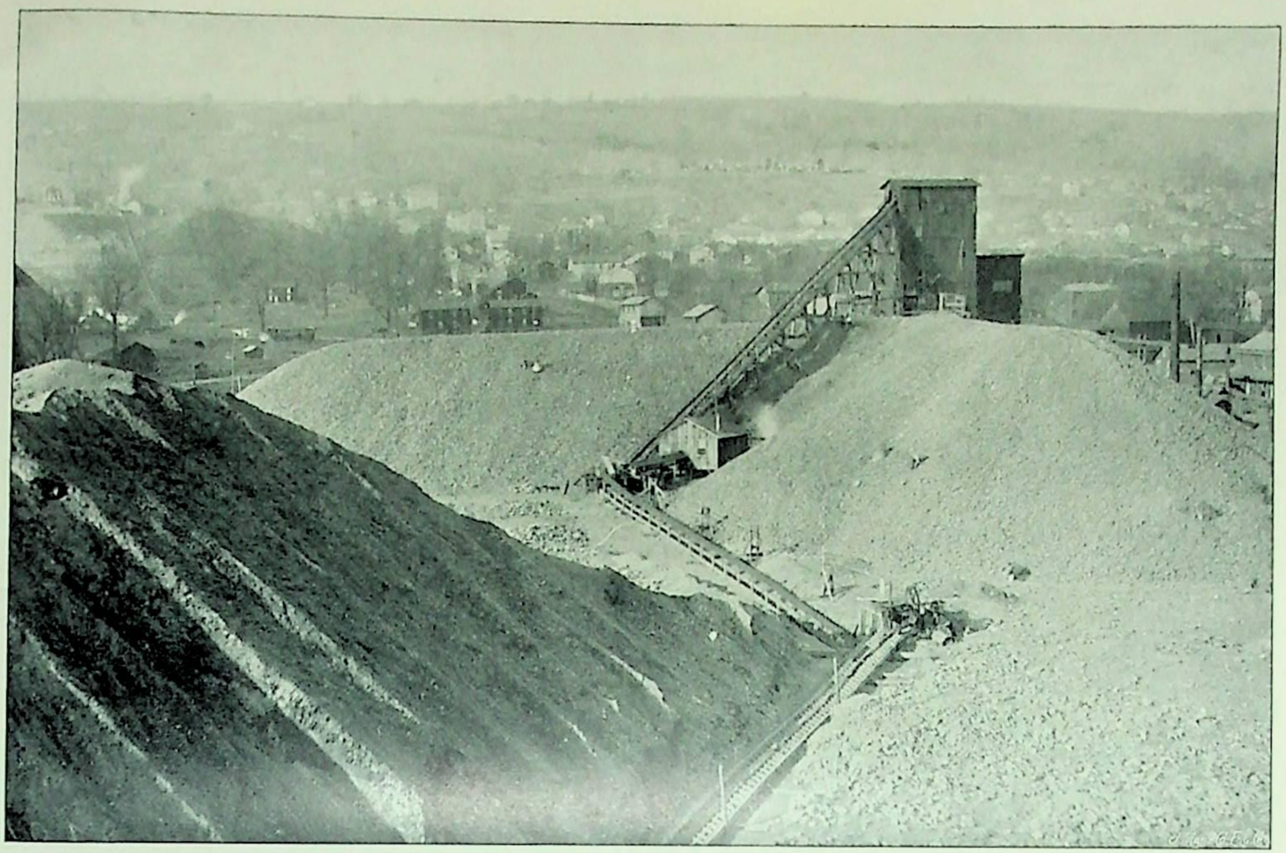
COAL CONVEYOR

At Boston Breaker, Delaware & Hudson Canal Co., Wilkesbarre, Pa.



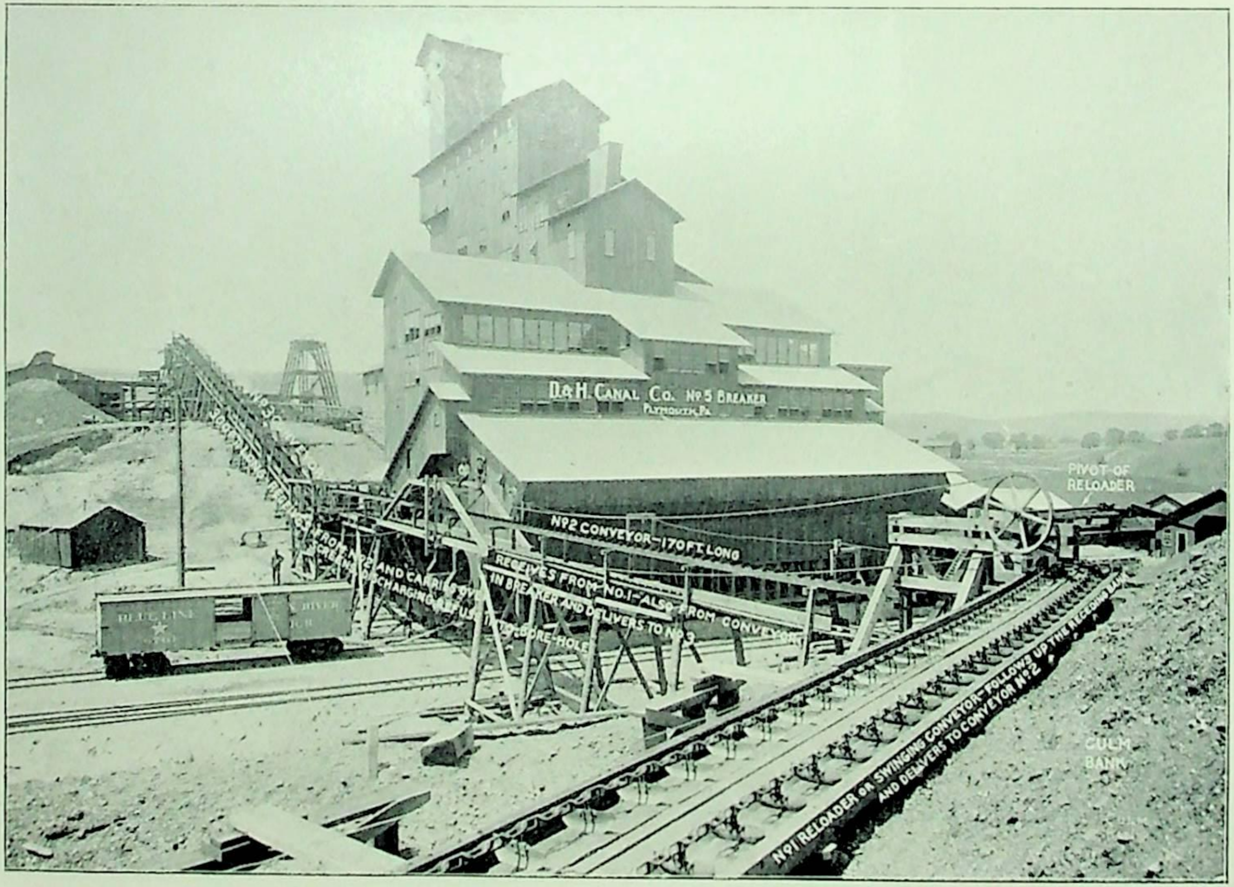
COAL CONVEYOR.

328 ft. centres, employing double strand No. 1024 "Monobar" chain, at the receiving end of Baltimore Breaker, Delaware & Hudson Canal Co., Wilkesbarre, Pa. Capacity, 4 tons run-of-mine coal per minute.

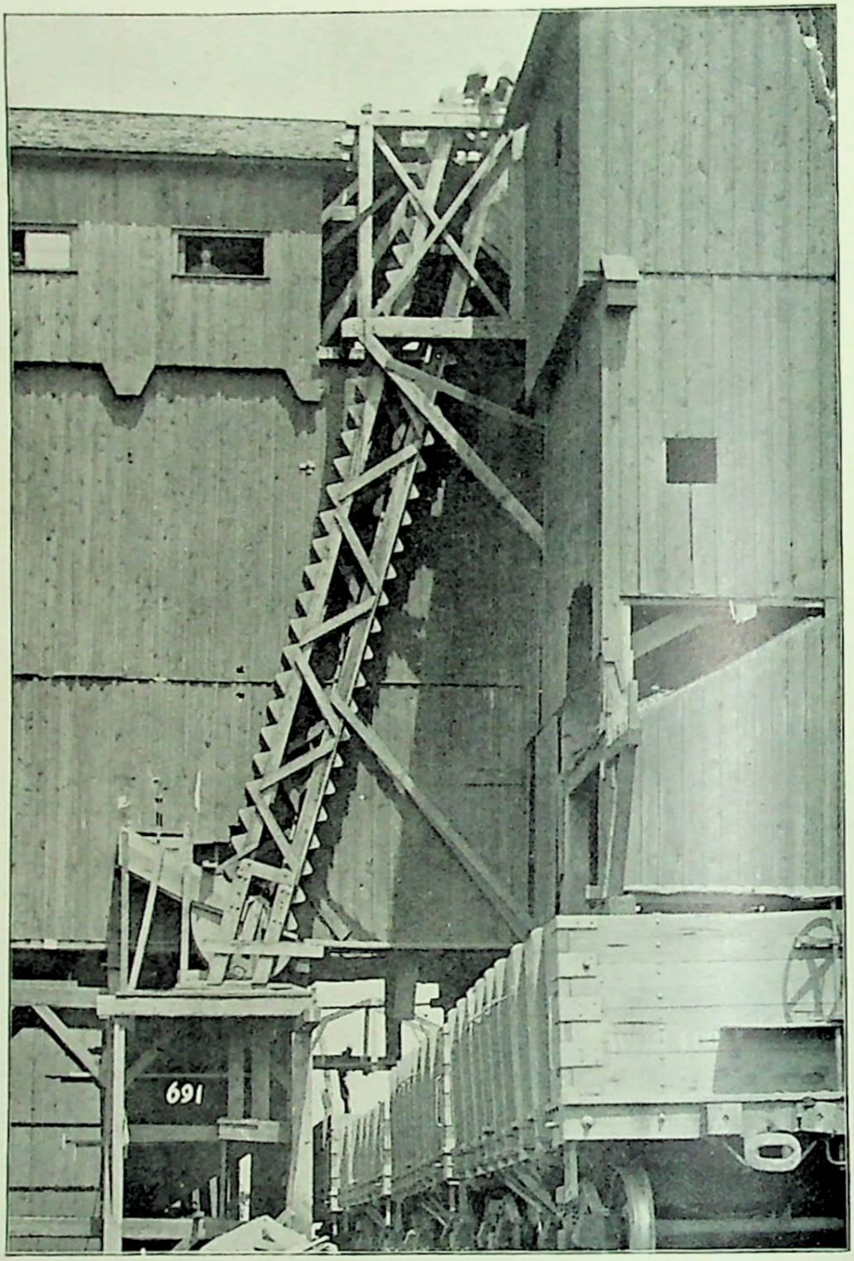


RECLAIMING COAL FROM CULM BANKS.

View shows in foreground patent Swinging Conveyor, which follows up the receding face of the bank as the working proceeds and delivers the culm to the fixed horizontal and inclined conveyors, leading to the washery of Reynolds & Meyers, Plymouth, Pa. Total length of Conveyors 750 feet.

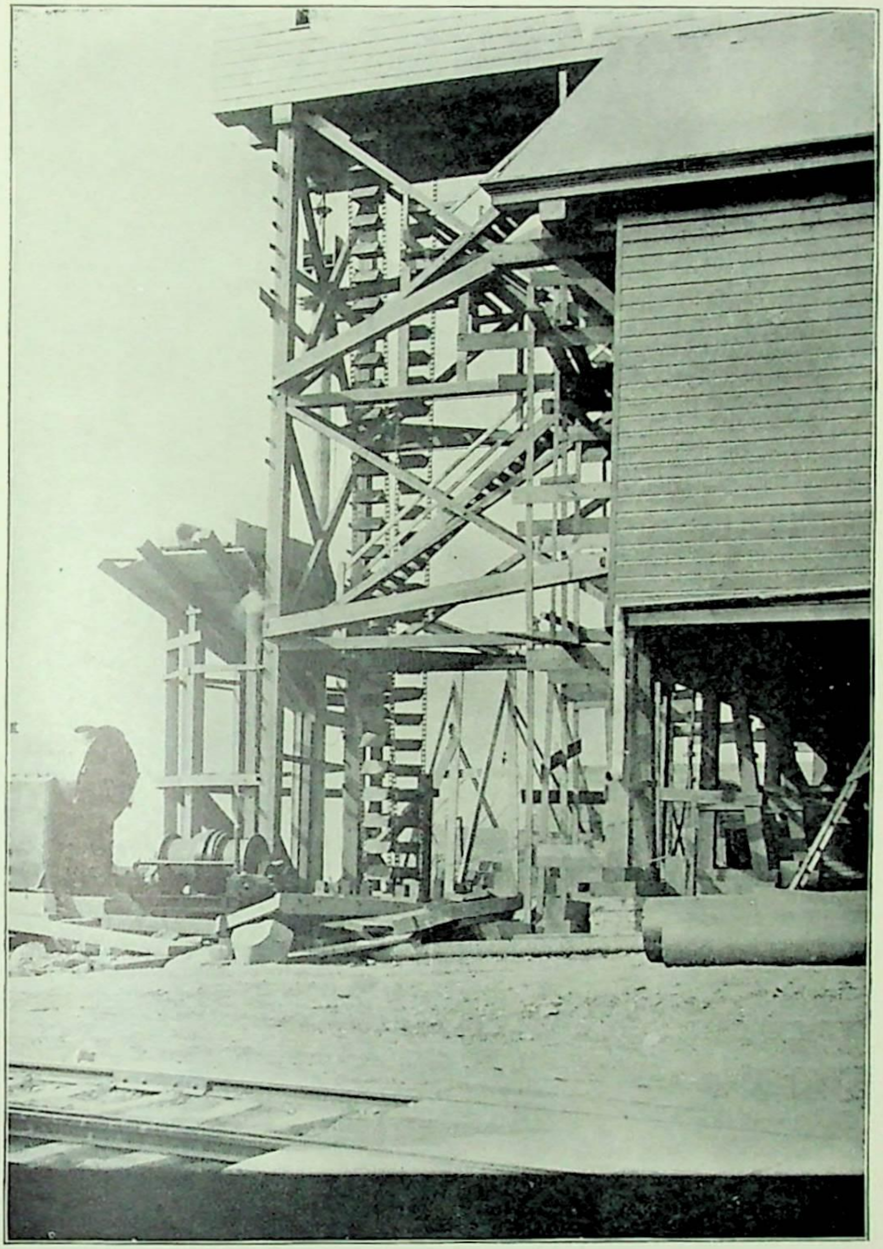

D&H CANAL Co. No 5 BREAKER
PLYMOUTH, PA.
No 3 CONVEYOR
300 FT. LONG
FROM No 2 AND CARRIES OVER
SCREENS DISCHARGING REFUSE INTO BORE-HOLE
No 2 CONVEYOR - 170 FT. LONG
RECEIVES FROM No. 1 - ALSO FROM CONVEYOR
IN BREAKER AND DELIVERS TO No 3
PIVOT OF RELOADER
No 1 RELOADER OR SWINGING CONVEYOR - FOLLOWS UP THE RECEDING BANK
AND DELIVERS TO CONVEYOR No 2
CULM BANK

FILLING OLD WORKINGS WITH CULM FROM WASTE BANK AND BREAKER.



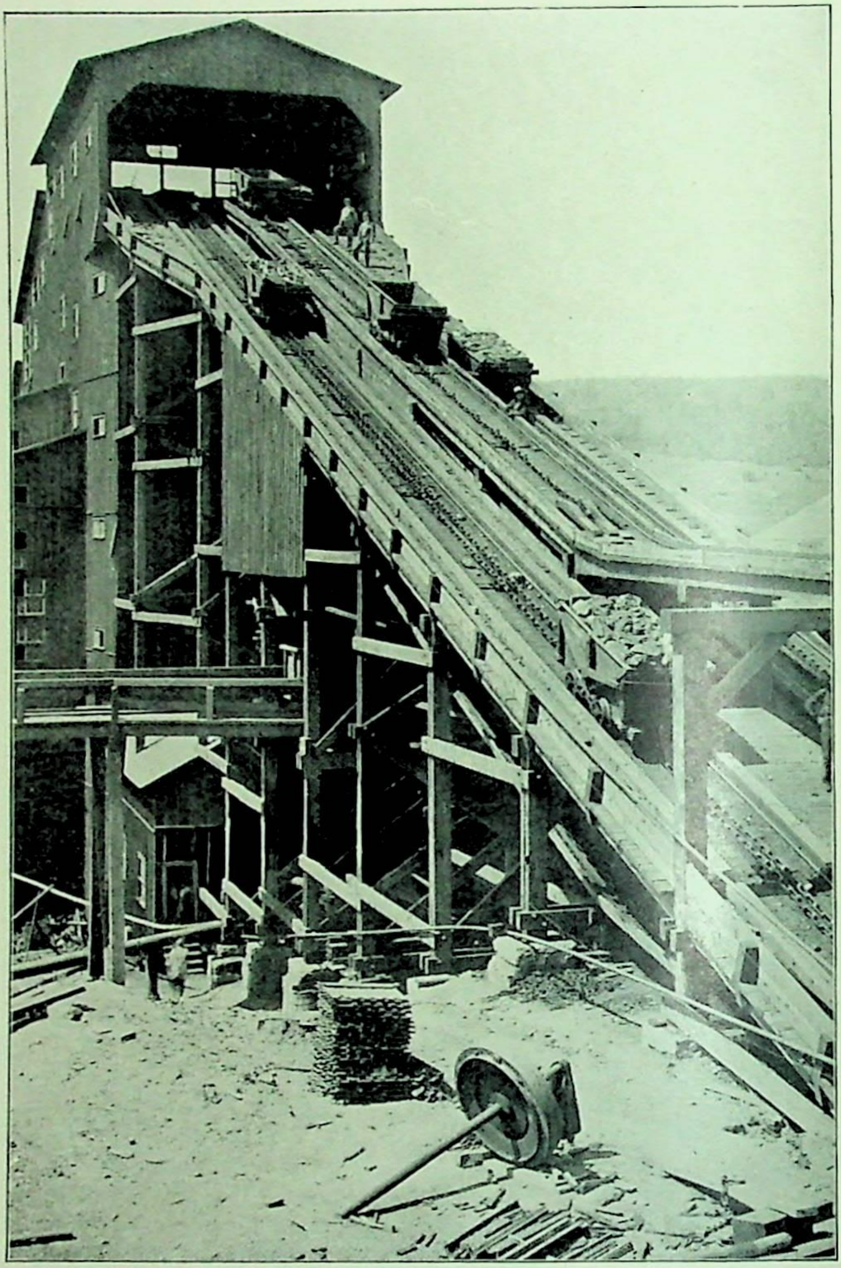
CONTINUOUS BUCKET ELEVATOR.

Handling coal at breaker of Gallitzin Coal and Coke Co., Gallitzin, Pa. Dodge chain employed.



GRAVITY DISCHARGE ELEVATOR,

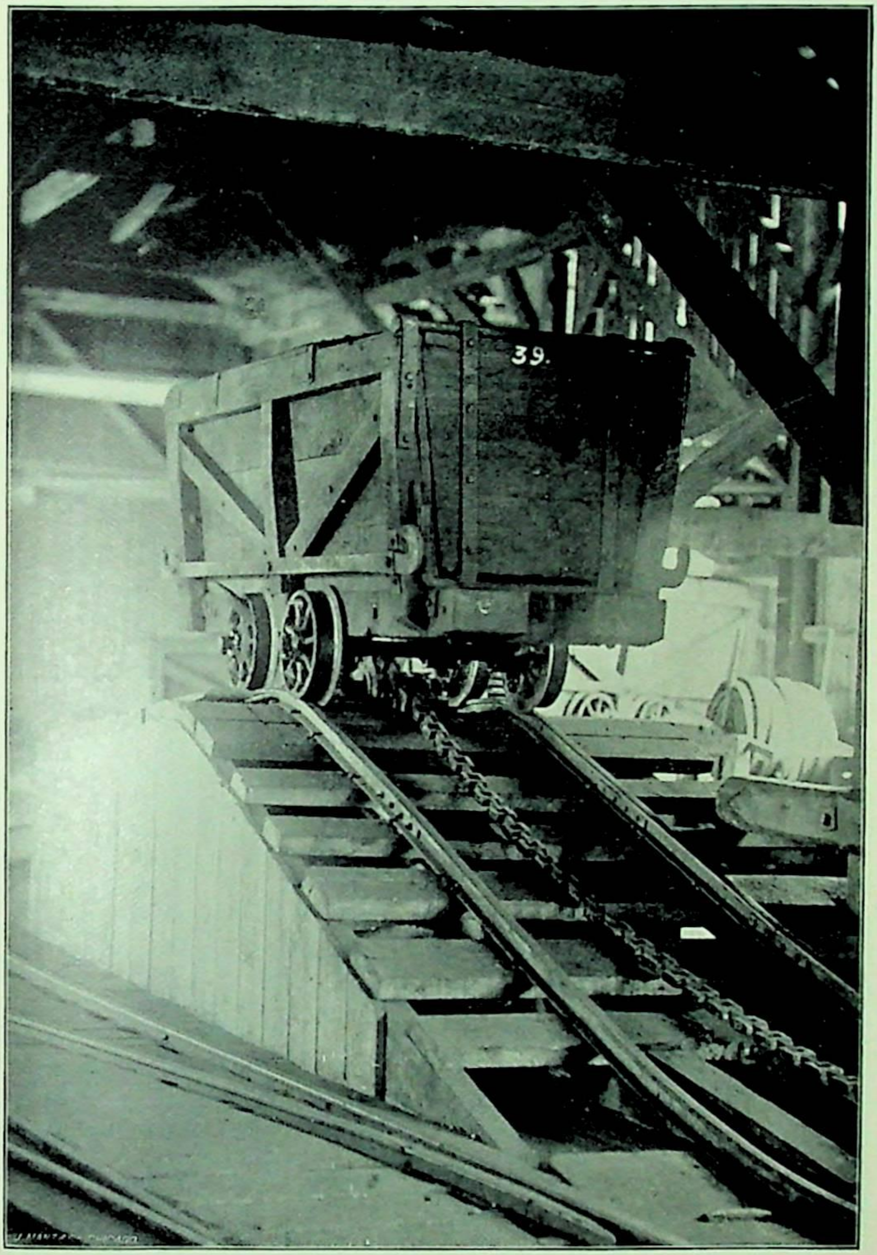
with centrally hung buckets attached to two strands No. 124 Ewart Link-Belting. Discharges coal into horizontal distributing Conveyor at yards of Teeves Coal Co., Brooklyn, N. Y.



DODGE CHAIN CAR HAULS

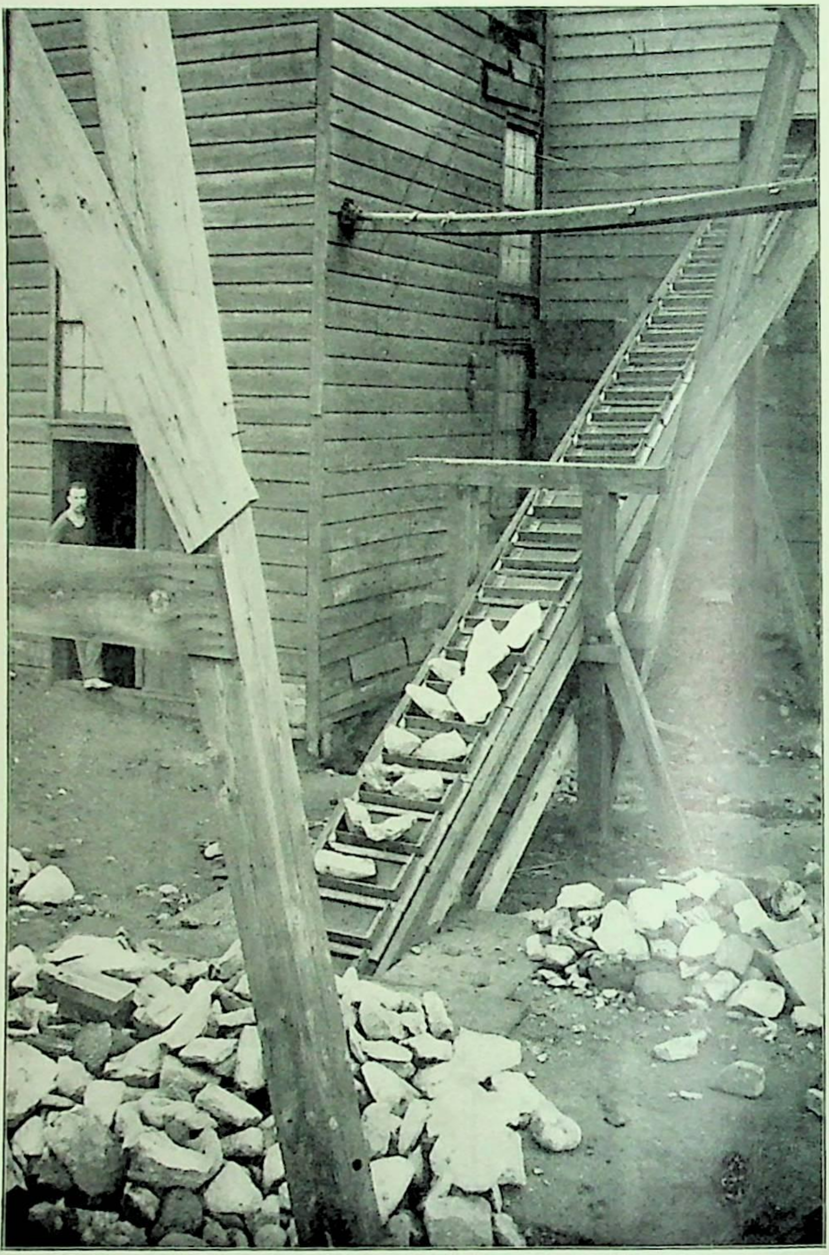
for hauling up loaded, and lowering empty cars. at Susquehanna Coal Co.'s Breaker, Nanticoke, Pa. Cars are engaged and released automatically by axle hooks at intervals on chains.

Similar heavy Hauls at Essen Coal Co., Essen, Pa., Sun Coal & Coke Co., Sun, W. Va., Union Pacific Coal Co., Rock Springs, Wyo., etc.



SHORT GIANT-CHAIN CAR HAUL

at head of coal breaker. Car is pulled up to position shown, from which it can run off a long distance by gravity.



CARRIER FOR LARGE HEAVY PIECES

Of ore, pig iron, rock, limestone, coal, coke, slag and similar substances. Any weight or strength desired.

THE "LINK-BELT" SHAKING SCREENS

Are the outgrowth of several years of practical experience, their construction embodying such forms as have been proven by experience to be the best.

The Screens are built entirely of steel, the channels, angles and plates being firmly riveted together to form a frame-work in which the perforated screen-plates are held with bolts, so that they may be removed and changed without affecting the stability of the frame.

Connecting rods are double steel rods attached to the Screens, with cushion springs to ease off the blow at either end of the stroke. They are attached to heavy eccentrics, which are driven by a heavy shaft, in extra heavy boxes, with a fly-wheel pulley.

Adjustable rods suspend the Screens from above. These give to the Screens the only proper oscillatory movement.

By using a pair of Screens driven by eccentrics set 180 degrees apart, as shown in illustration on opposite page, the vibrations are neutralized, and the Screens and drum-shaft may be suspended from the screen shed without imparting to the shaft-house any of the severe vibrations so objectionable in single screens.

ADVANTAGES

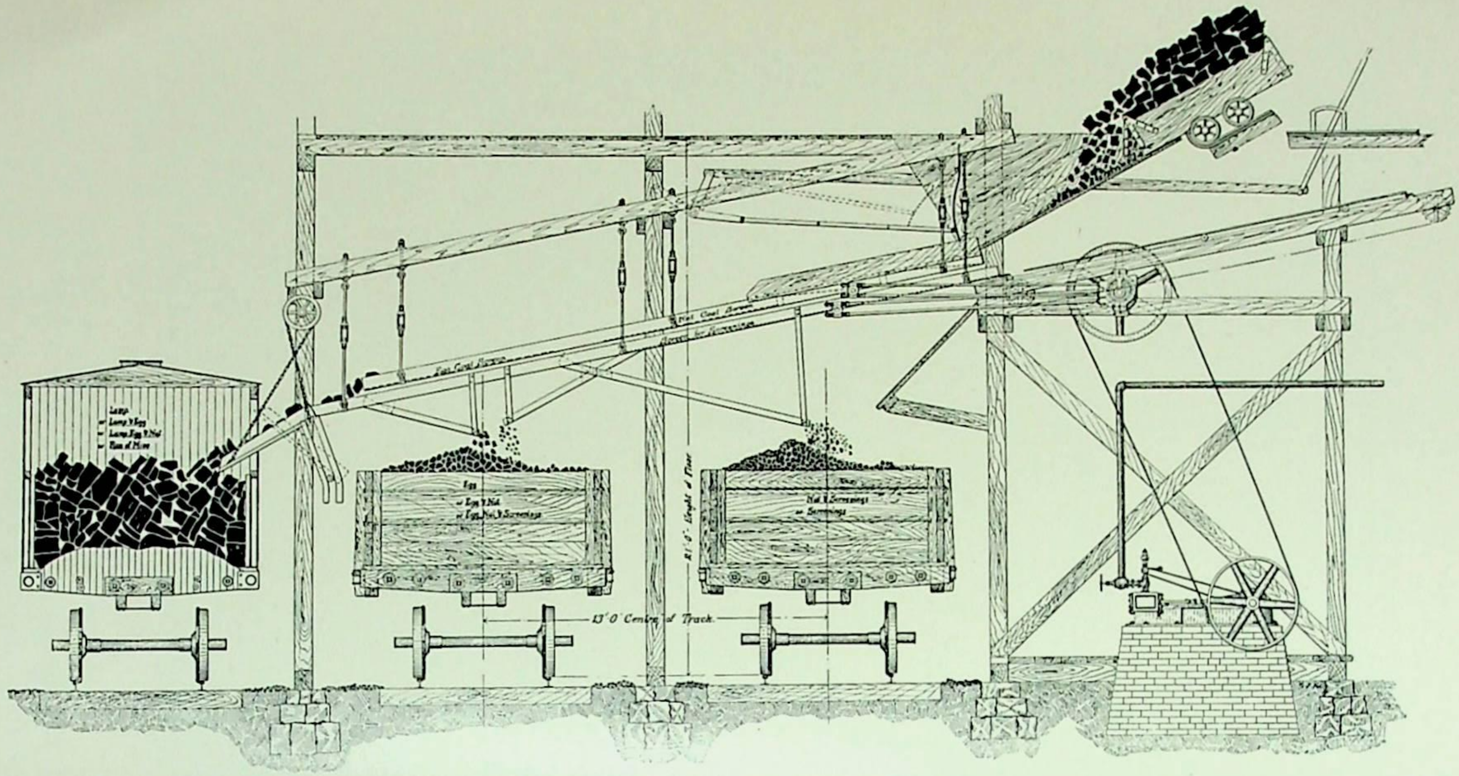
THEY WILL—Screen coal thoroughly.

Materially reduce the breakage.

Facilitate the loading of box cars.

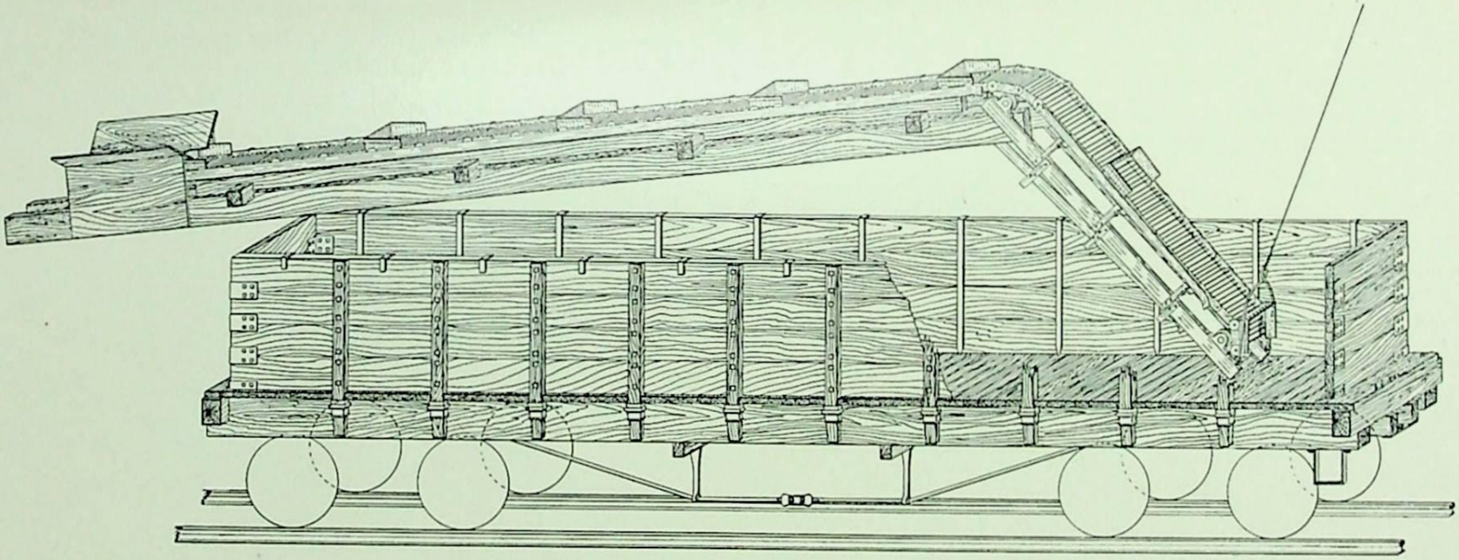
Make possible the addition of a larger percentage of small coal to the Lump and Egg sizes without affecting their selling price.

Readily make various combinations of sizes without stopping work to make changes.



LINK-BELT SHAKING SCREENS.

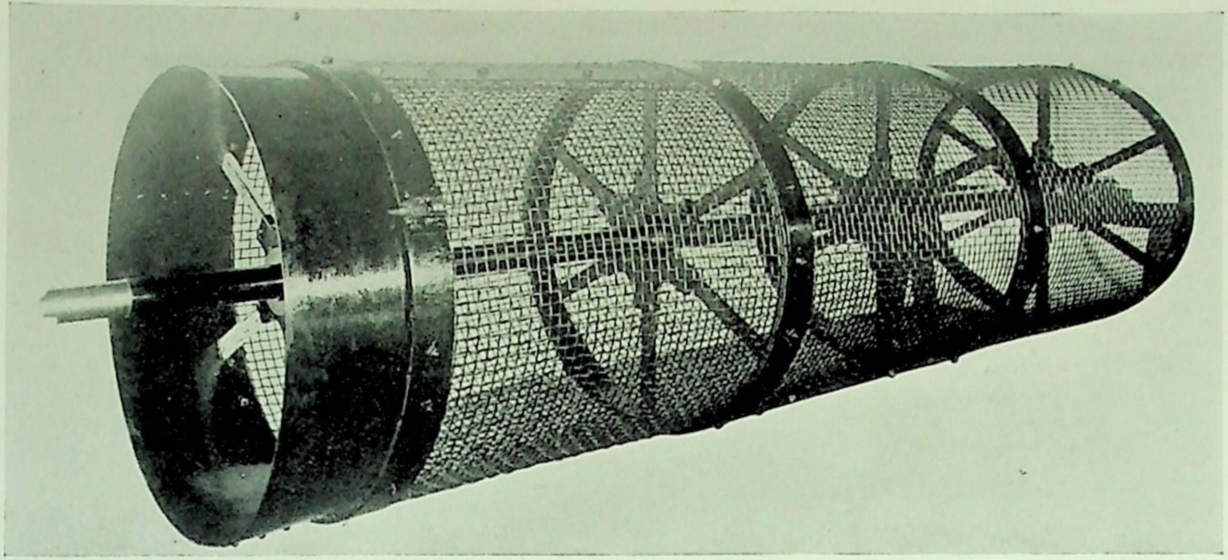
Above cut shows a pair of "Link-Belt" Shaking Screens placed in a tipple house having a floor 21 feet above rail, and delivering coal into cars on three tracks. The sizes that can be made are Lump, Egg, Nut, Slack, and "Run of Mine," and these can be delivered to the tracks severally, or in combination, as shown.



LUHRIG PATENT PICKING TABLE.

When it is desired to make a clean egg coal, the Luhrig Patent Picking Table becomes an essential feature. This is placed directly over the middle track, and the egg coal passes from the chute of the Shaking Screen directly onto the Picking Table.

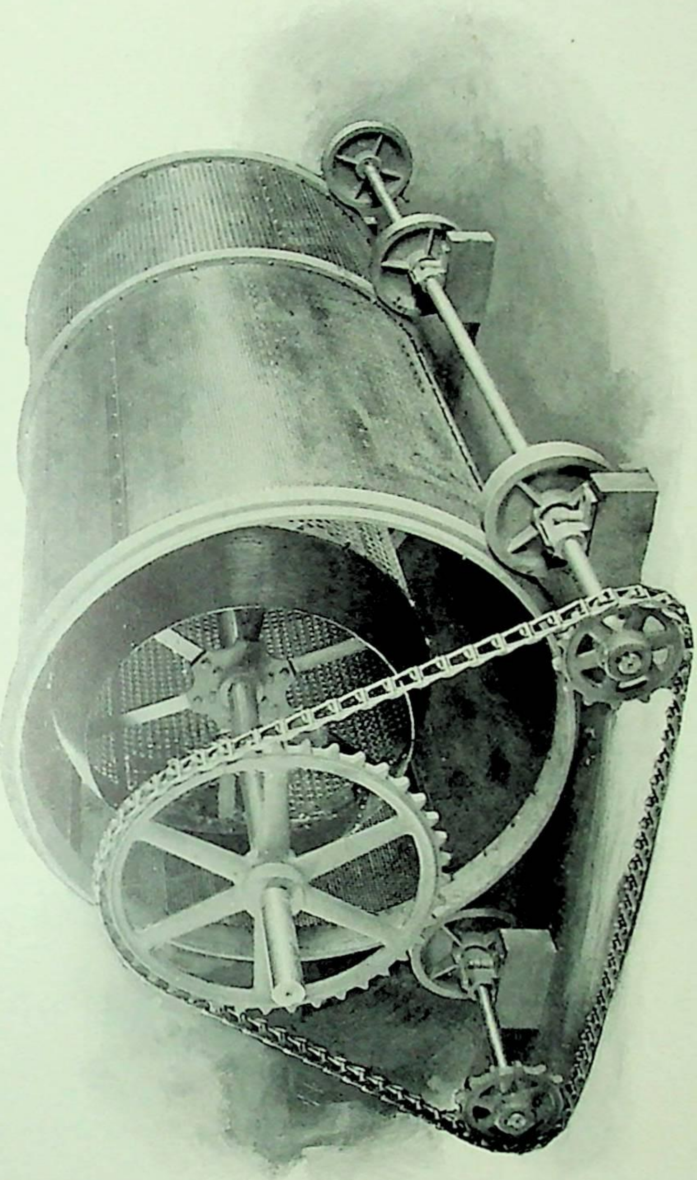
This Table is an endless grating which moves slowly a distance of about 25 feet horizontally, to afford means of carefully hand-picking the egg coal, removing therefrom all pieces of slate, clay, and sulphur. The outer end of this Picking Table is in the form of a lowering-arm, as will be seen in cut. This lowers the clean egg coal into the car without breakage, and the endless grating allows all small pieces, broken in passing from the screen, to fall through and be removed, thus insuring a perfectly clean egg coal.



REVOLVING SCREENS.

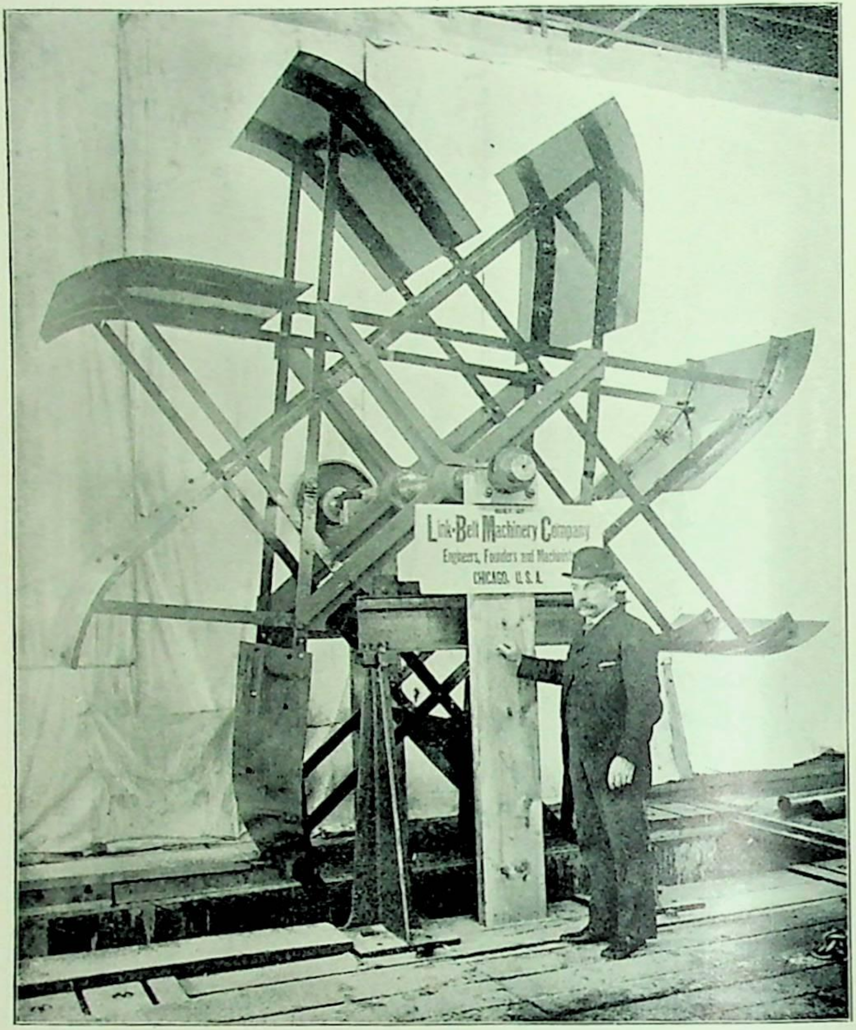
Are made in all sizes, both circular and hexagonal, and with screening surface made of wire cloth or of perforated plate as required. The larger sizes are stiffened by means of truss rods. Where the nature of the material to be screened requires it, we supply the screens with internal lifting blades to make a cleaner separation. We also build Double and Triple Jacketed Screens of substantial design for special purposes.

Prices quoted on application.



DOUBLE REVOLVING SCREEN.

Screens Independent and Eccentric.


Link-Belt Machinery Company
Engineers, Founders and Machinists
CHICAGO. U.S.A.

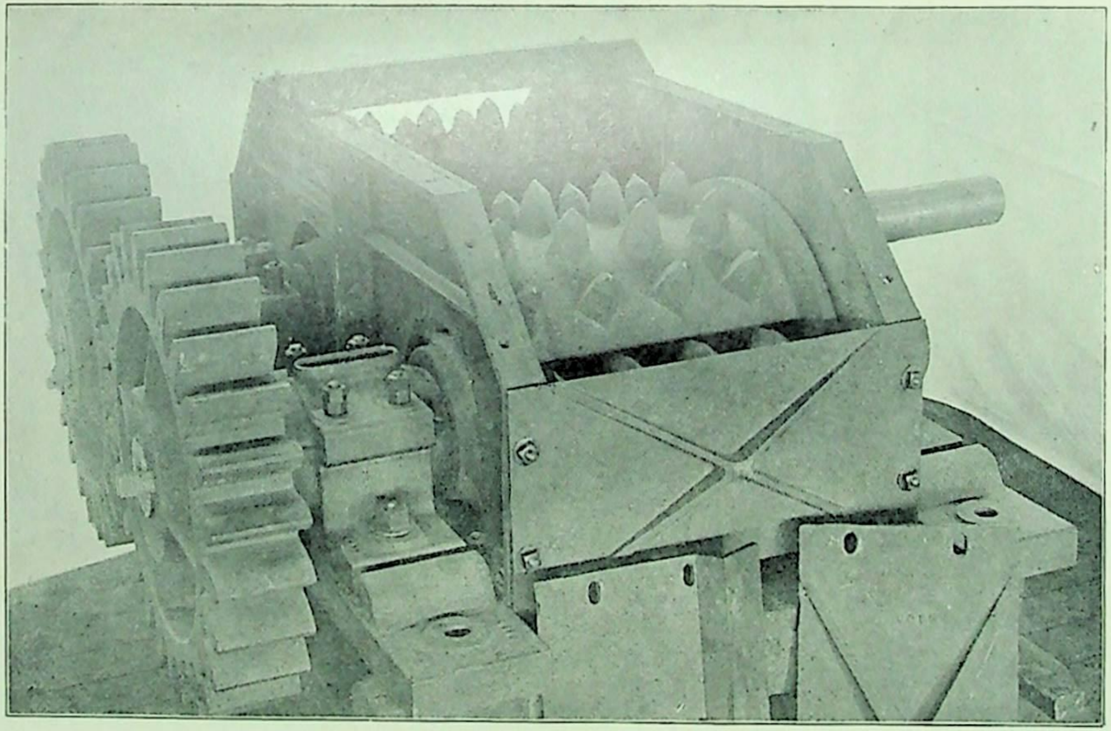
Guibal Type

MINE VENTILATING FAN.

In deciding upon the Guibal as a standard, we have done so in full knowledge of the uniformly excellent service which this type of mine fan has given under all conditions. It is built upon strictly scientific principles. The form of the vanes, construction of the arms and disposition of the braces are all designed to give the highest possible efficiency for the amount of power used in driving, and of material used in construction. These fans will throw a given amount of air with a minimum of power, and will be doing excellent work when many of the *cheap, flimsy fans* now on the market will long have rusted on the scrap heap.

We build these fans of any size, with or without wood or iron casing, and with engines or motors to operate same.

Prices quoted upon application.

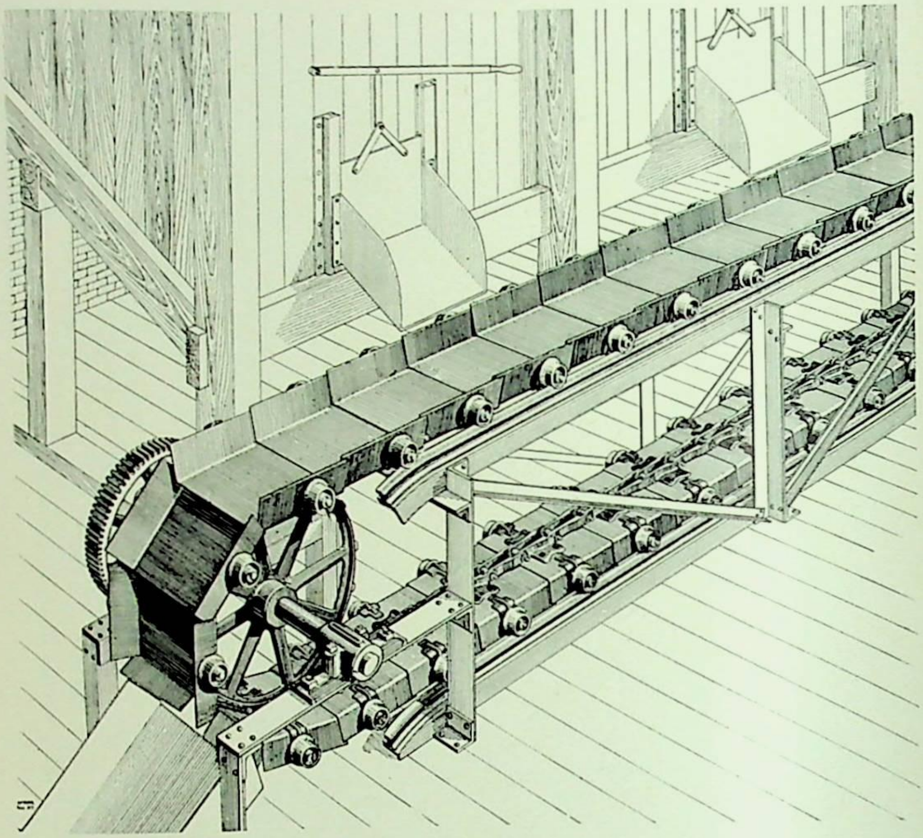


LINK-BELT BREAKER

For breaking coal, coke, phosphates and soft rock. Made of a wide range of sizes and capacities, with chilled cast iron solid teeth, or removable steel teeth. We also manufacture a full line of plain and corrugated rolls for crushing to finer sizes. Prices quoted on application.

WEIGH BOXES.

Designed and constructed to weigh coal either before or after screening. We shall be pleased to submit designs to suit special conditions upon receipt of statement of requirements.



DETAIL VIEW OF

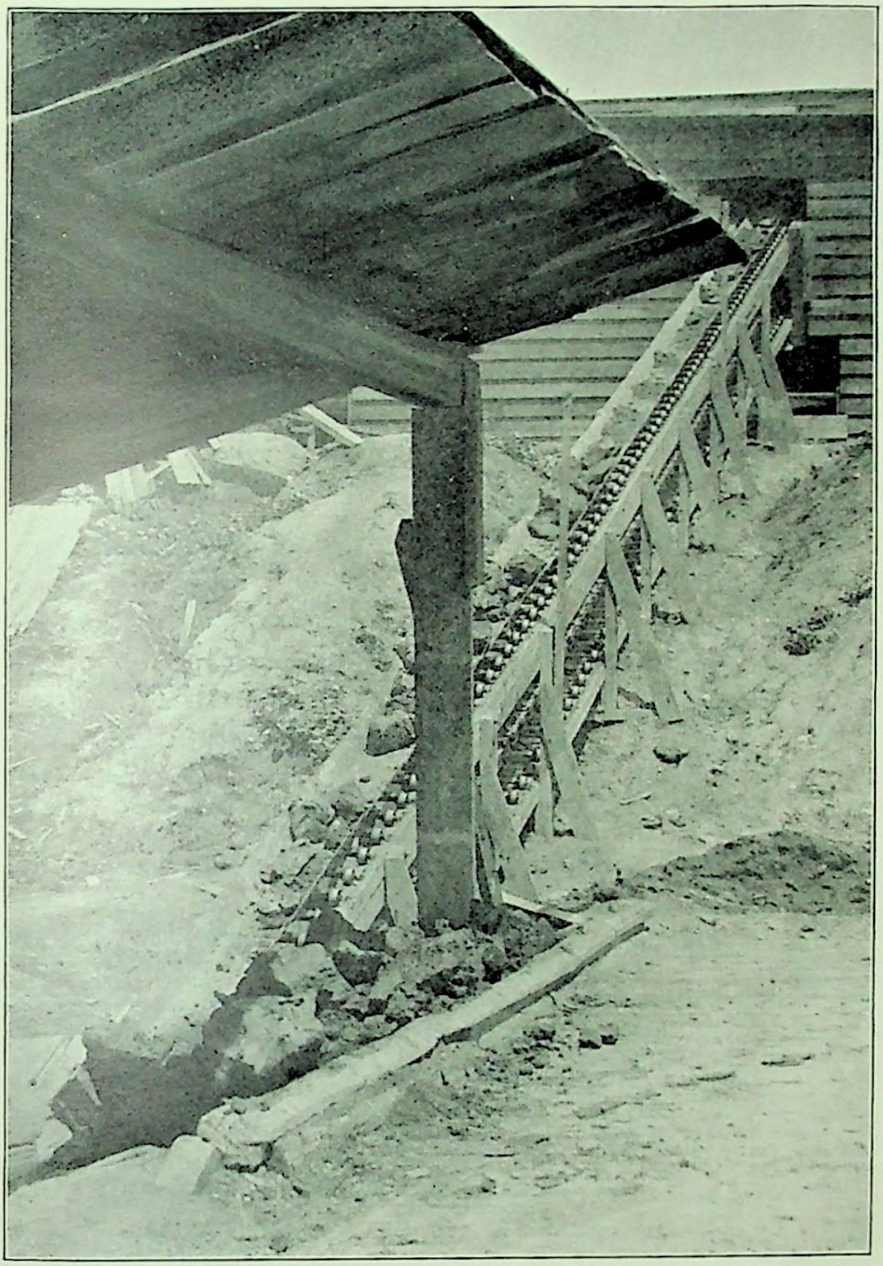
The Endless Trough Conveyor

(PATENTED)

As described on page 234. The Endless Trough Conveyor is used by the following firms:

J. M. Blair Brick Co., Cincinnati, O., handling lump clay.
Alsip Brick Co., Chicago, handling lump clay.
Cambria Coal Co., Cambria, Wyo., handling coal.
B. Seimer & Co., Dayton, O., handling lump clay.
May, Purington & Co., Dalton, Ill., handling lump clay.
Spring Lake Iron Co., Fruitport, Mich., handling iron ore.
Davenport Coal Co., Harrisburg, Ill., handling bituminous coal.
Metallic Extraction Co., Cyanide, Col., handling ore.
Quincy Gas-Light and Coke Co., Quincy, Ill., handling coke.
Bronson-Portland Cement Co., Bronson, Mich., handling cement clinkers.
Bunker Hill & Sullivan S. M. & C. Co., Wardner, Idaho, handling ore.
Consumers Gas Co., Chicago, handling coke.
Northern Pacific Railway Co., Tacoma, Wash., handling coal.
And others.

When writing for prices, describe the nature, condition and quantity of material to be handled, and length of Conveyor, giving size of largest lumps, if there are any.



ENDLESS TROUGH CONVEYOR.

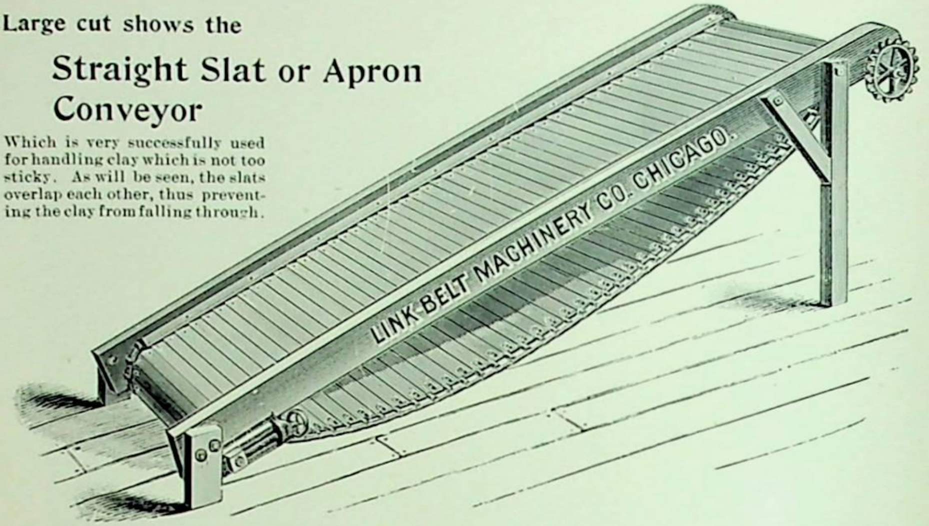
(PATENTED.)

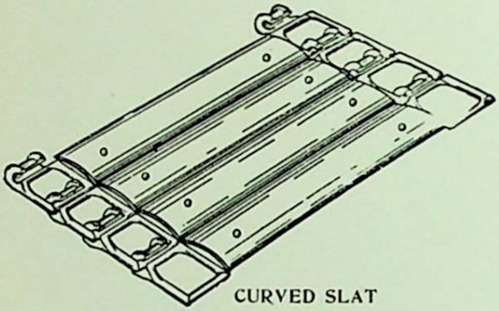
Carrying clay for 130,000 brick per day from dump to mixer at yards of the Alsip Brick Co., Chicago.

Large cut shows the

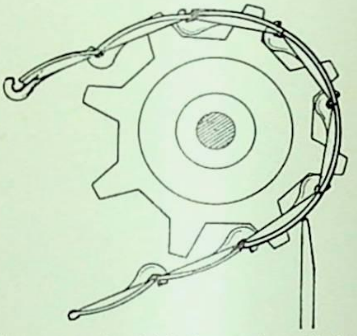
Straight Slat or Apron Conveyor

Which is very successfully used for handling clay which is not too sticky. As will be seen, the slats overlap each other, thus preventing the clay from falling through.


LINK-BELT MACHINERY CO. CHICAGO.



CURVED SLAT



(Showing manner in which Scraper is applied.)

The Curved Slat Conveyor

(PATENTED)

is particularly adapted for handling tempered or sticky clay. The slats are made of steel, curved in such a manner as to form a practically cylindrical surface at the discharge end, to which a scraper is applied, and overlapped at the pitch line of the chain in such a manner as to prevent the slats opening up in relation to each other or sliding on each other, thus effectually preventing the clay working in between the slats, and practically avoiding the difficulties which are experienced in the use of the various imitations of our device. The cylindrical surface with scraper, and the meeting of the slats on the pitch line, are both covered by the claims of our patent, and these features give a decided **Mechanical Superiority** to our device over the various imitations which have been attempted.

These Conveyors are built of any desired length and width, and are used for a variety of purposes. The sizes most commonly required for handling clay are as follows:

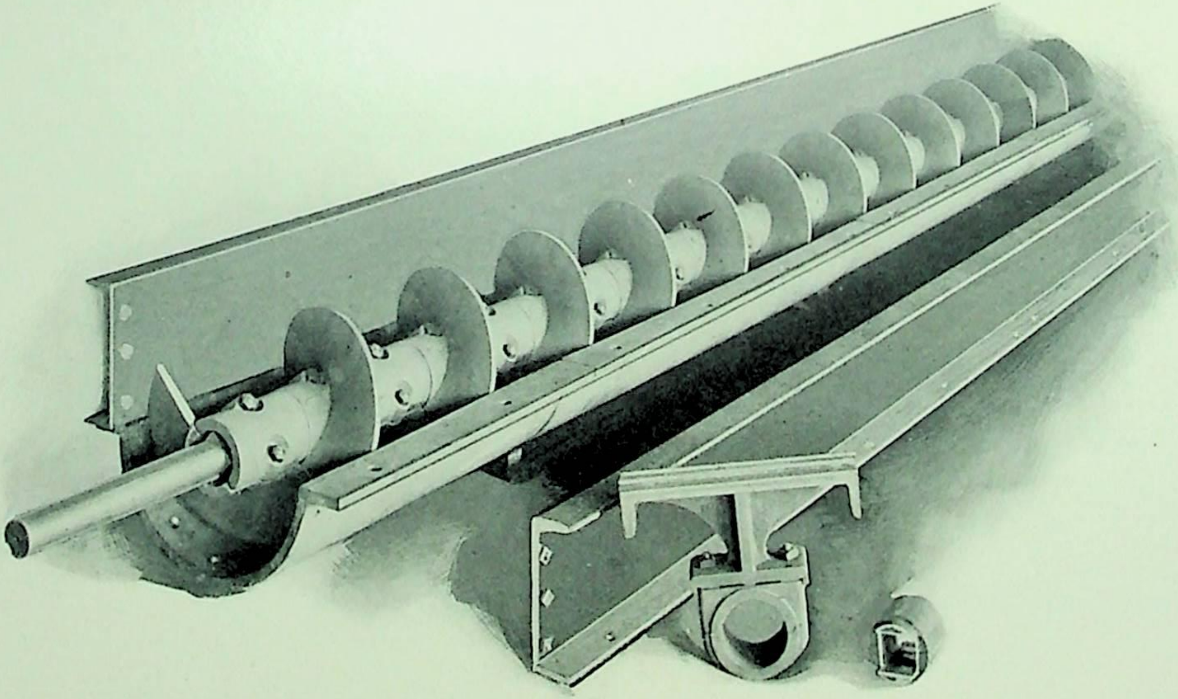
Iron Work of Curved Slat Clay Conveyors with Idlers, Not Including Driving Machinery

Width of Apron.	Length of Conveyor.					
	10 ft.	12 ft.	14 ft.	16 ft.	18 ft.	20 ft.
12 inches........................	$50 00	$57 00	$64 00	$71 00	$ 81 00	$ 88 00
14 "	53 00	60 50	68 00	75 50	86 00	93 50
16 "	56 00	64 00	72 00	80 00	91 00	99 00
18 "	59 00	67 50	76 00	84 50	96 00	104 50
20 "	62 00	71 00	80 00	89 00	101 00	101 00

THE "LINK-BELT" CAST IRON SCREW CONVEYOR.

Patents applied for.

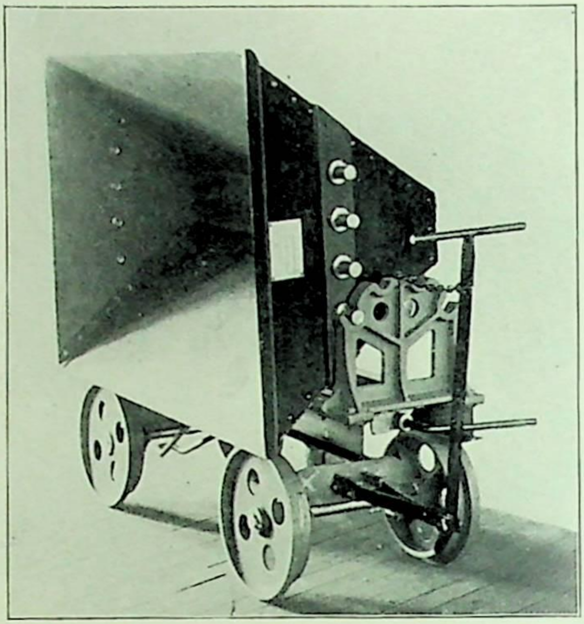
Especially designed for, and in successful use, handling ashes, ore, sand, gravel, and other abrasive materials.



The Conveyor is made up of heavy cast iron flights, independently removable, on square shaft. The journals and bearings are made respectively of case-hardened steel and chilled cast iron, and are conveniently and cheaply renewed. The bottom of trough is made of cast iron, and sides of channel iron or heavy rolled steel, as may be desired.

"Screw Conveyor in our ash pit at Wabash has been in service 18 months. We have not had a failure in that time. It works perfectly and entirely satisfactory."—*Wm. Garstang, Supt. Motive Power, C., C., C. & St. L. Ry., Indianapolis, Ind.*

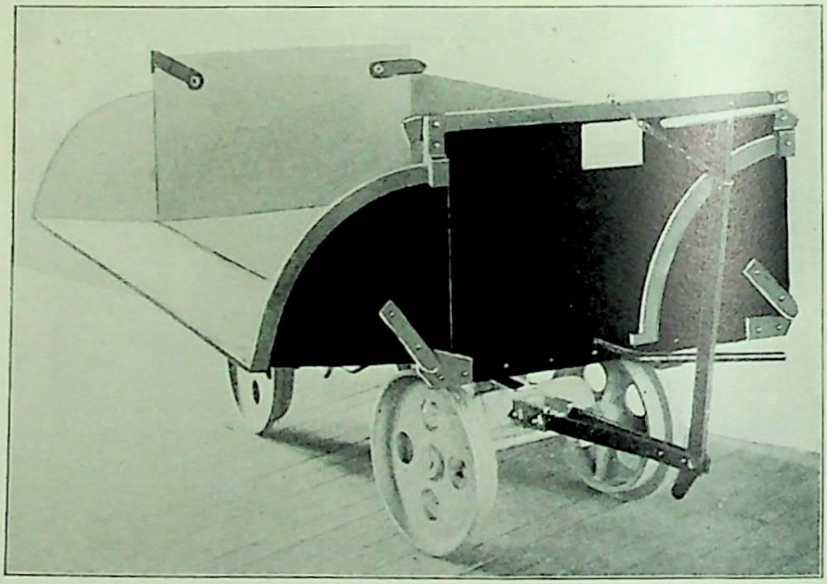
The following regular sizes are made: 10 in., 12 in., 14 in., 16 in. and 18 in. Prices upon application.



STEEL COAL OR ASH CAR.

(Side dumping.)

Built of any capacity or proportion.



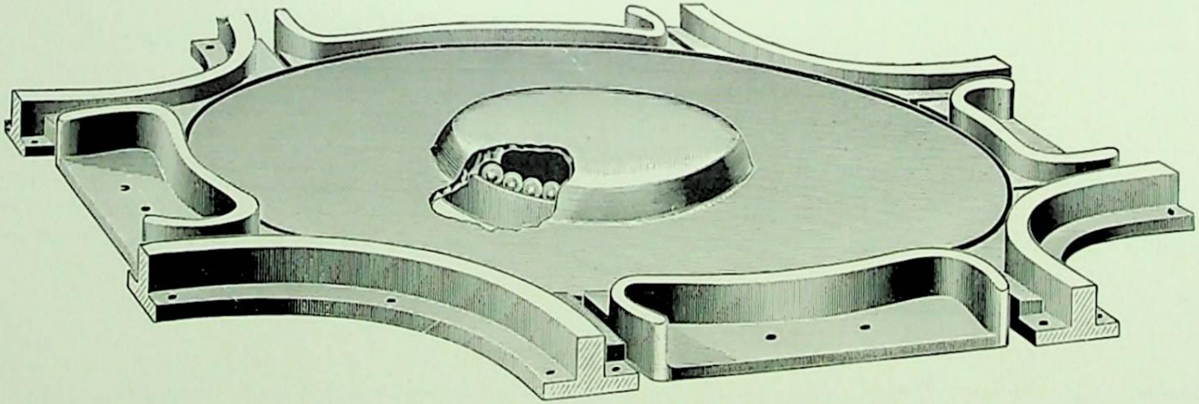
COKE CAR.

(Drop sides.)

These cars built in wide range of variety and capacity.

THE "LINK=BELT" TURN TABLE

Construction is such that load is balanced -- even when load is not central -- thus relieving corner guards of weight and bringing entire load upon the balls. This insures great ease of operation, as, when heavily loaded, it can be readily swung around by one man.



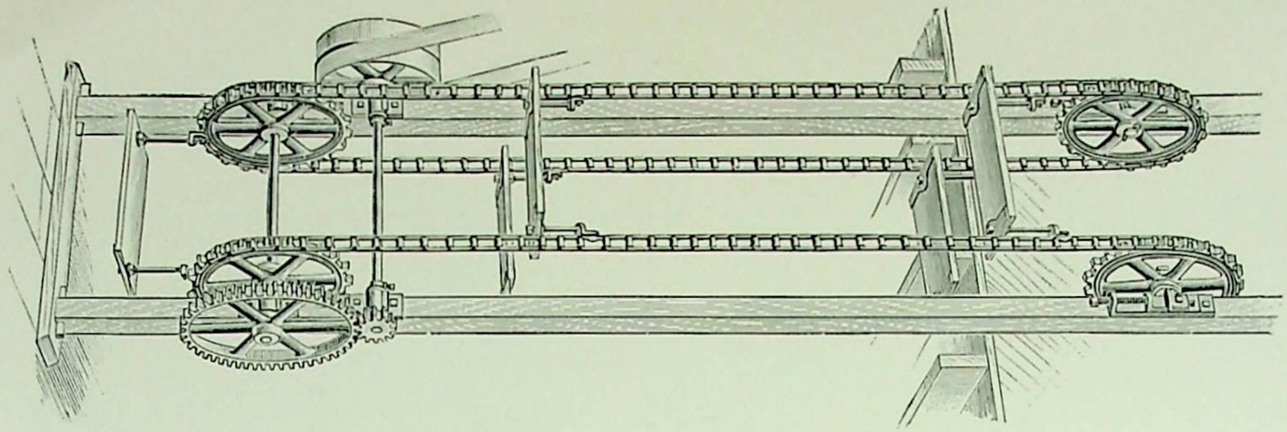
SIMPLE, DURABLE, MECHANICAL, ECONOMICAL

No pit nor foundation is required, the base of the table being flush with bottom of rail.

PRICE LIST

43-inch diameter for 22-inch track gauge	$ 55 00
48 " " " 26¼-inch " "	60 00
60 " " " 30 " " "	80 00
120 " " " 30 " " "	300 00

SPECIAL SIZES MADE TO ORDER



Price List of Tile Elevators on No. 45 link-belt, with 18x11 Trays, 10 inch drop, arranged to drive at the foot, complete except driving gear and frame work:

Height between Centers of Wheels.	4 Trays.	5 Trays.	6 Trays.	7 Trays.	8 Trays.
10 feet -----	$25.00	$26.10	$27.20	$28.30	$29.40
15 " -----	26.80	27.90	29.00	30.10	31.20
20 " -----	28.60	29.70	30.80	31.90	33.00
25 " -----	30.40	31.50	32.60	33.70	34.80
30 " -----	32.20	33.30	34.40	35.50	36.60
35 " -----	34.00	35.10	36.20	37.30	38.40
40 " -----	35 80	36.90	38.00	39.10	40.20

Driving Gear for above, as shown in cut, $17.50.
Extra Trays, $1.10 each.

Price List of Tile Elevators on No. 57 link-belt, with 30x21 Trays, 16 inch drop, arranged to drive at foot, complete except driving gear and frame work:

Height between Centers of Wheel.	4 Trays.	5 Trays.	6 Trays.	7 Trays.	8 Trays.
10 feet -----	$41.00	$43.50	$46.00	$48.50	$51.00
15 " -----	43.40	45.90	48.40	50.90	53.40
20 " -----	45.80	48.30	50.80	53.30	55.80
25 " -----	48.20	50.70	53.20	55.70	58.20
30 " -----	50.60	53.10	55.60	58.10	60.60
35 " -----	53.00	55.50	58.00	60.50	63.00
40 " -----	55.40	57.90	60.40	62 90	65.40

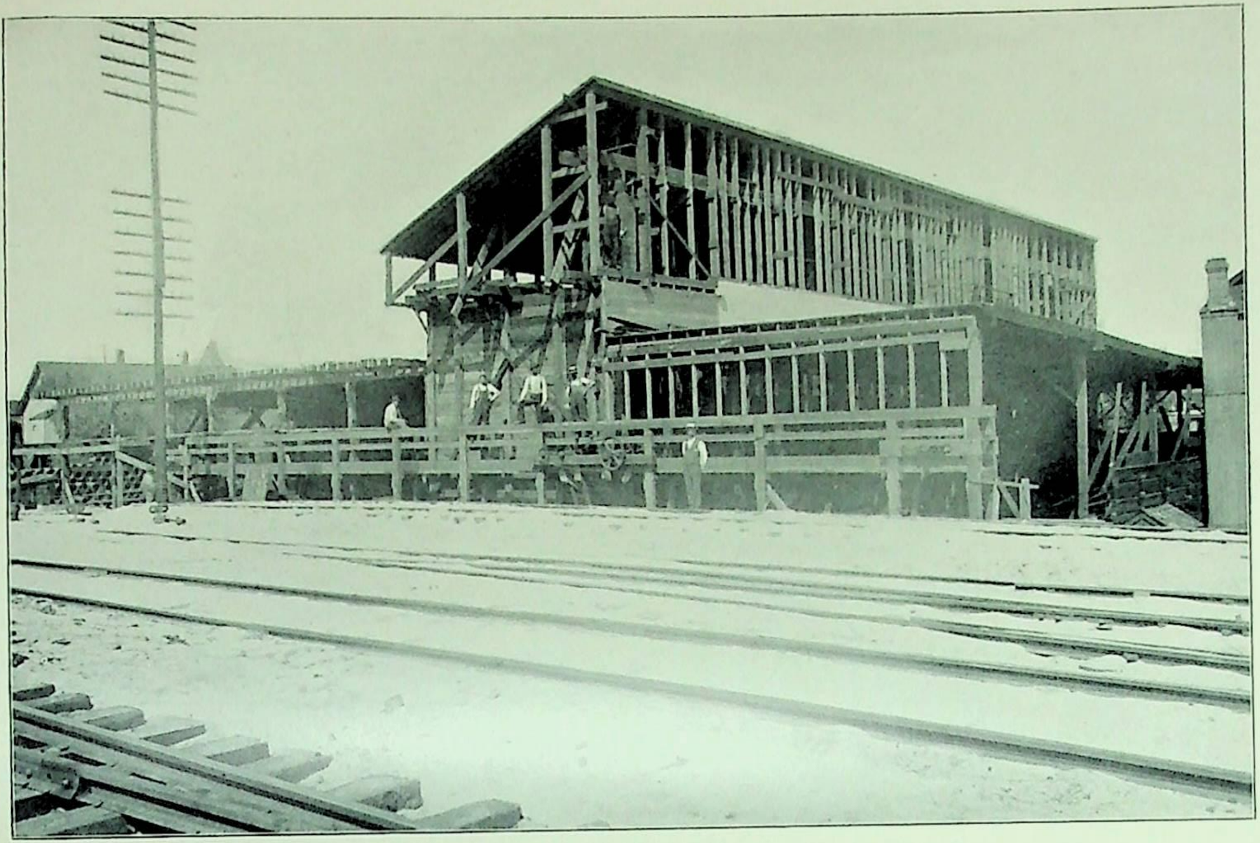
Driving Gear for above, as shown in cut, $24.50.
Extra Trays, $2.50 each.

Wholesale and Retail Coal Pockets.

Designs and estimates of cost for entire installation of machinery for the handling and storing of coal, in any quantity, for retail and wholesale purposes, submitted upon receipt of full particulars.

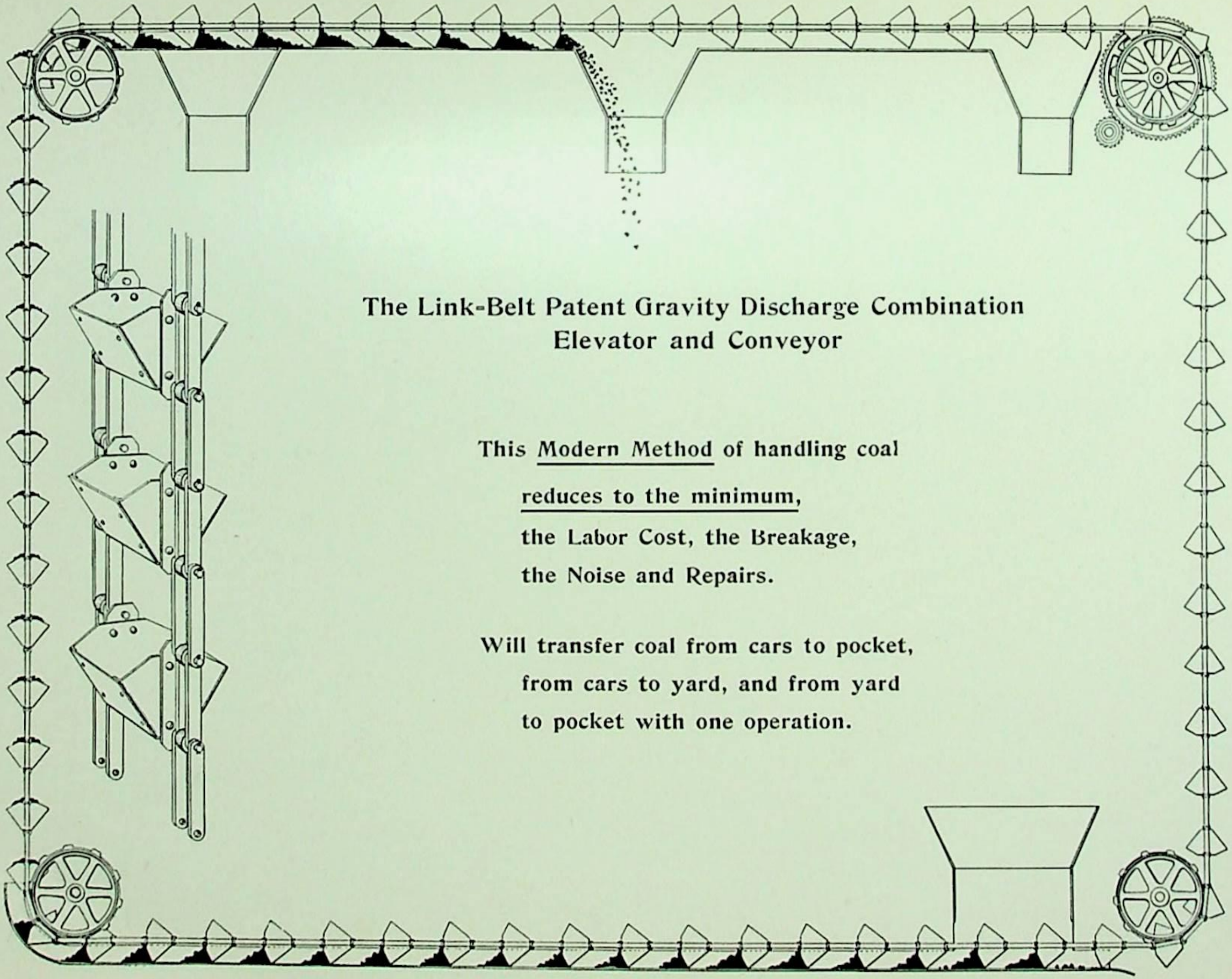
Among the coal yards equipped, are:

Coxe Bros. & Co., Clybourn and Wabansia Aves.	Chicago, Ill.
Coxe Bros. & Co., Bridgeport	Chicago, Ill.
Consumers Co.	Chicago, Ill.
Milton E. Robinson, Forty-fourth St. and Armour Ave.	Chicago, Ill.
Pennsylvania Coal Co., Forty-seventh and Wallace Sts.	Chicago, Ill.
Coxe Bros. & Co.	Milwaukee, Wis.
T. M. Tobin & Bro.	South Chicago, Ill.
Geo. W. Bush & Son Co.	Wilmington, Del.
Pennsylvania Coal Co.	Milwaukee, Wis.
Perry Coal Co.	Jersey City, N. J.
Teeves Coal Co.	Brooklyn, N. Y.
N. Y., L. E. & W. Ry.	Buffalo, N. Y
N. Y., O. & W. Ry.	Weehawken, N. J.



RETAIL COAL POCKET, MILTON E. ROBINSON, CHICAGO.

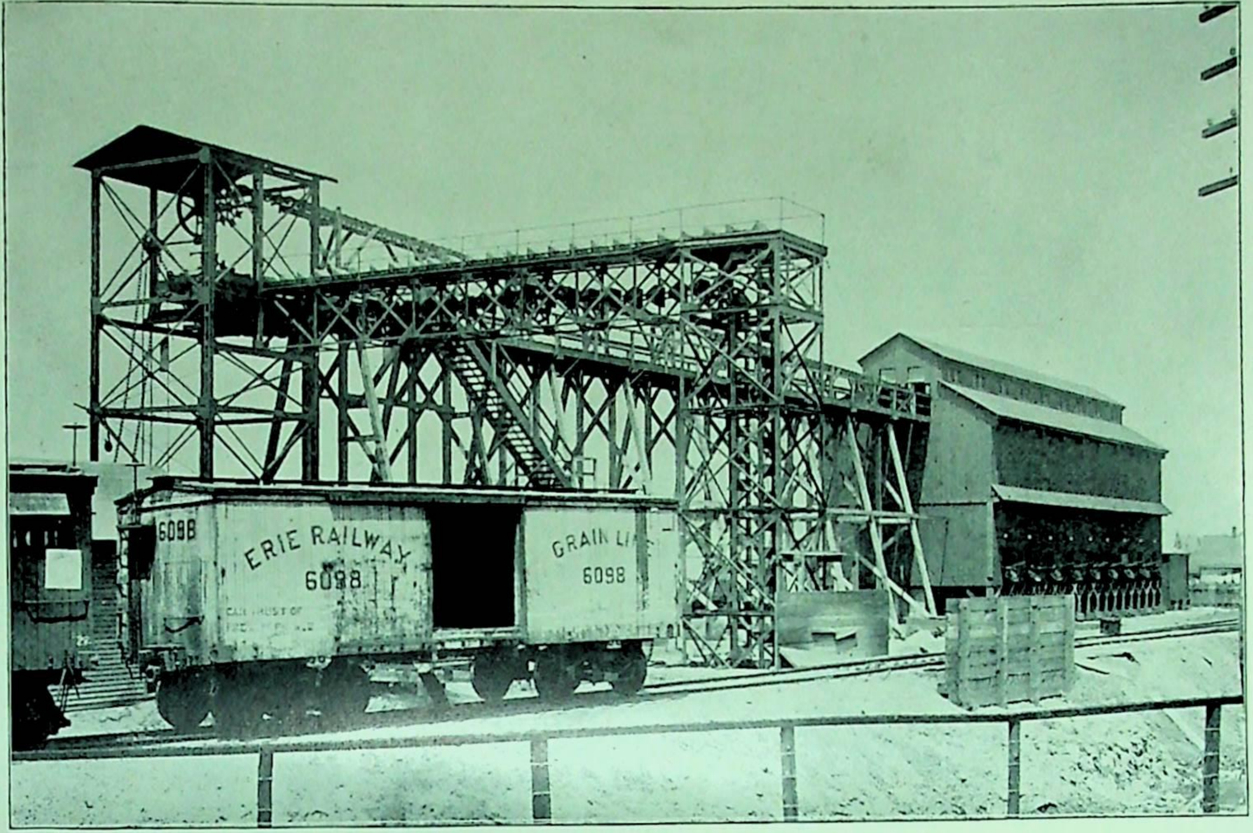
Equipped with Link-Belt Patent Gravity Discharge Combination Elevator and Conveyor as shown on opposite page.



The Link-Belt Patent Gravity Discharge Combination Elevator and Conveyor

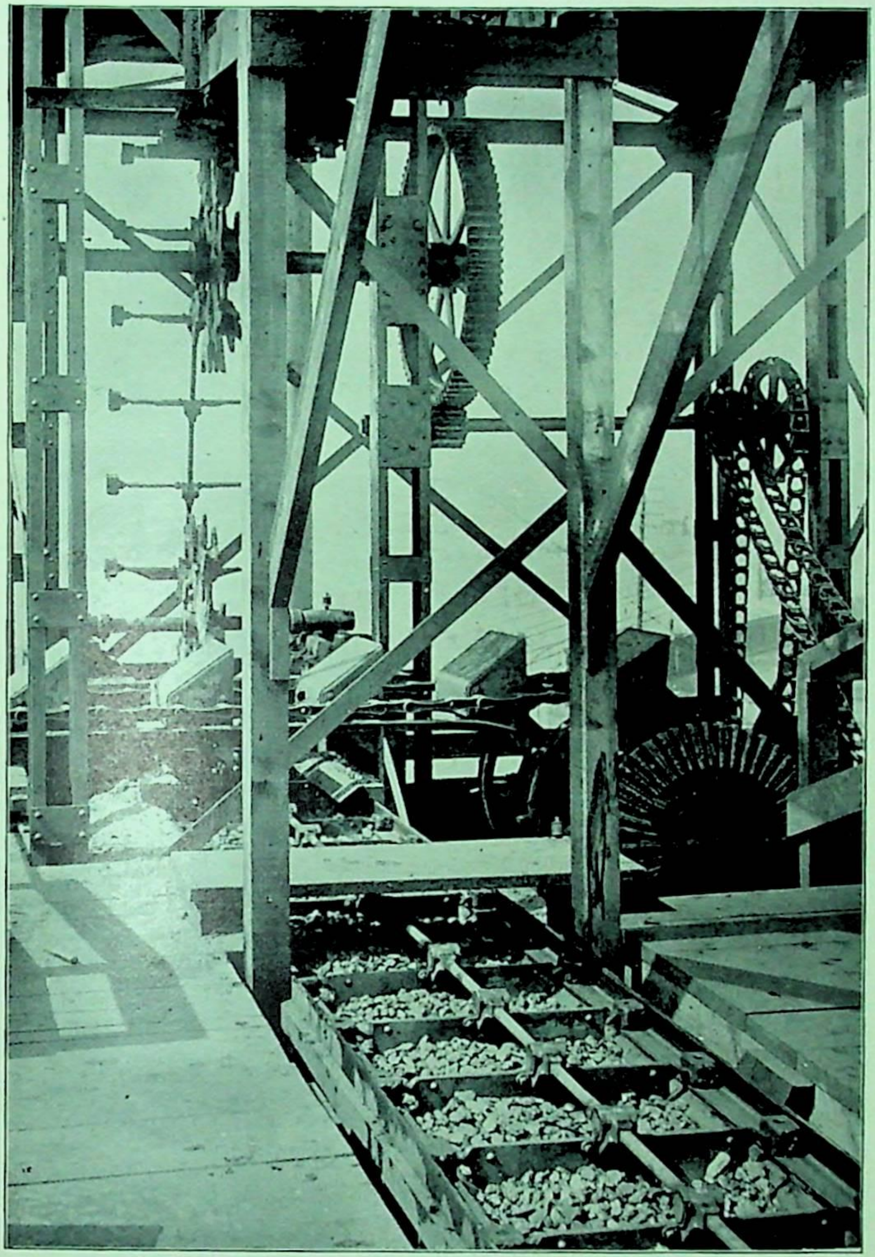
This Modern Method of handling coal
reduces to the minimum,
the Labor Cost, the Breakage,
the Noise and Repairs.

Will transfer coal from cars to pocket,
from cars to yard, and from yard
to pocket with one operation.



WHOLESALE COAL POCKET, NEW YORK, LAKE ERIE & WESTERN RAILROAD CO., BUFFALO, N. Y.

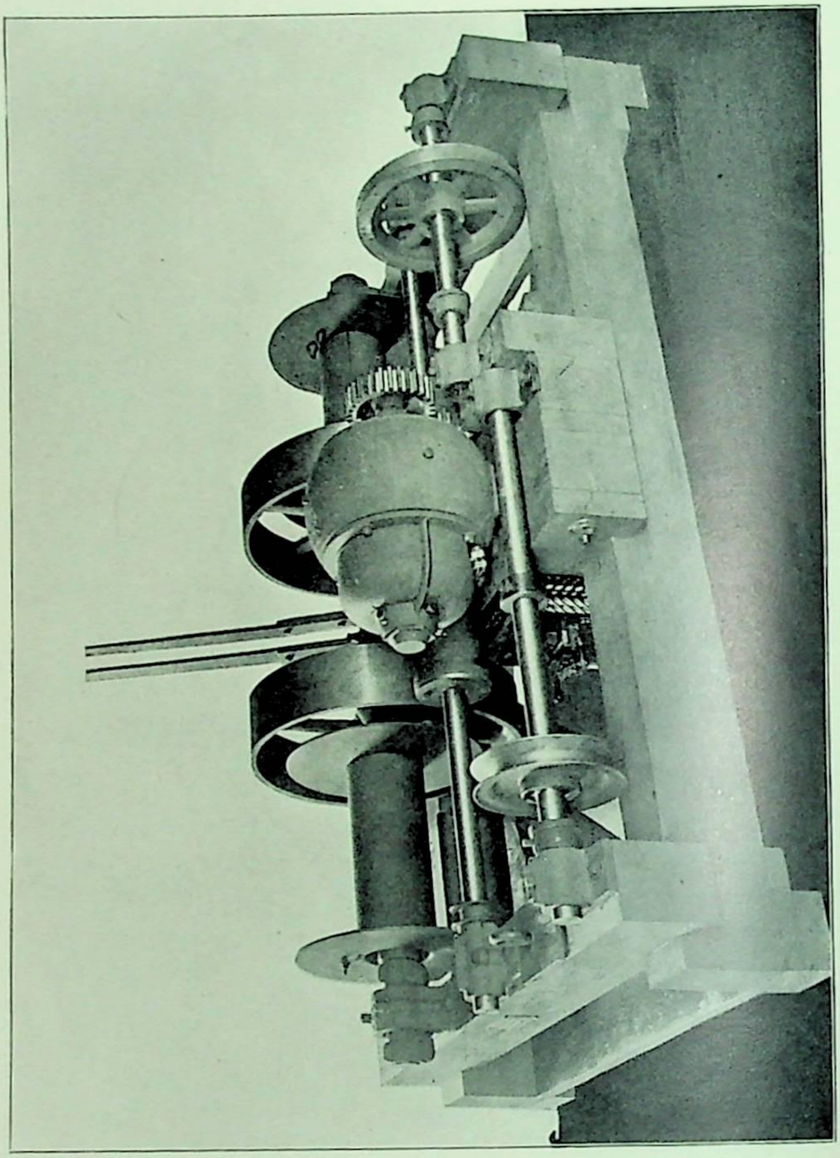
Erected 1895. Coal is dumped from cars into hopper under track, elevated 40 feet, and then carried horizontally a maximum distance of 310 feet, making one right angle turn in its course. Capacity of conveyors, 40 tons per hour.



Detail view of

NEW YORK, LAKE ERIE & WESTERN R.R. CO. COAL POCKET, BUFFALO, N. Y.,

Showing horizontal portion of elevator delivering into Conveyor, running over pockets. Conveyor is of "Monobar" chain, with flights supported on sliding shoes, which overcome noise and wear on trough.



PORTABLE ELECTRIC POWER SCRAPER

For use on steamships for scraping coal to the hatchway, and in coal yards.

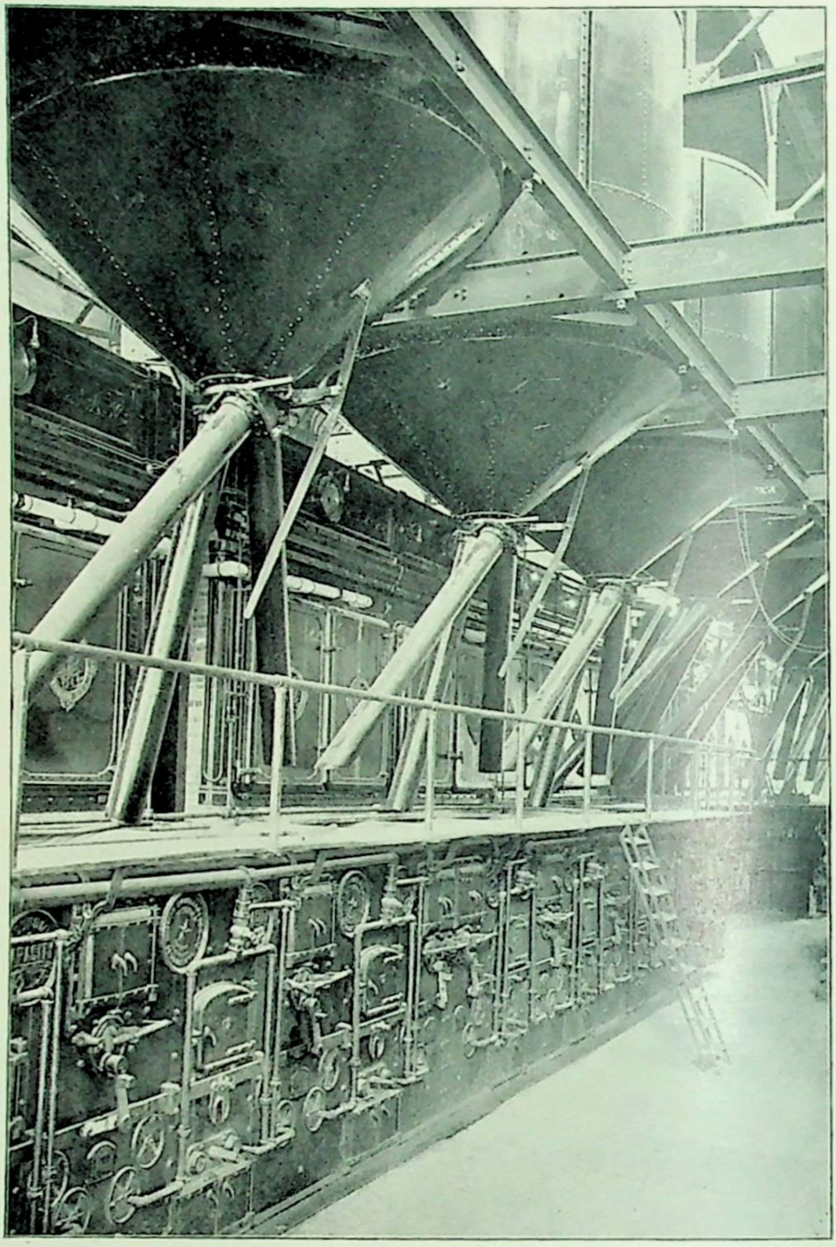
Street Railway, Electric Light and Industrial Power Stations.

Modern methods in the handling of coal and ashes by mechanical means are now regarded as essential in all well-designed boiler-houses. In the plant so equipped, the boiler-room is as clean as the engine-room, and no coal-shovelers are visible. Here the coal is received from wagons, cars or vessels; is taken by a properly arranged system of Link-Belt Elevators and Conveyors to storage pockets above the boilers, from whence it is drawn as needed. If mechanical furnaces are used, and frequently where they are not, the coal is brought to a uniform size by a Link-Belt Coal Breaker before it is elevated into the building.

Beneath, or in front of the ash pits, is a Conveyor which receives the ashes from time to time and carries them to the end of the building, where they are elevated into ashes pockets, from which they can be drawn out when convenient.

We have had an extensive experience in the designing and installation of this class of machinery, having furnished the following representative companies with complete outfits:

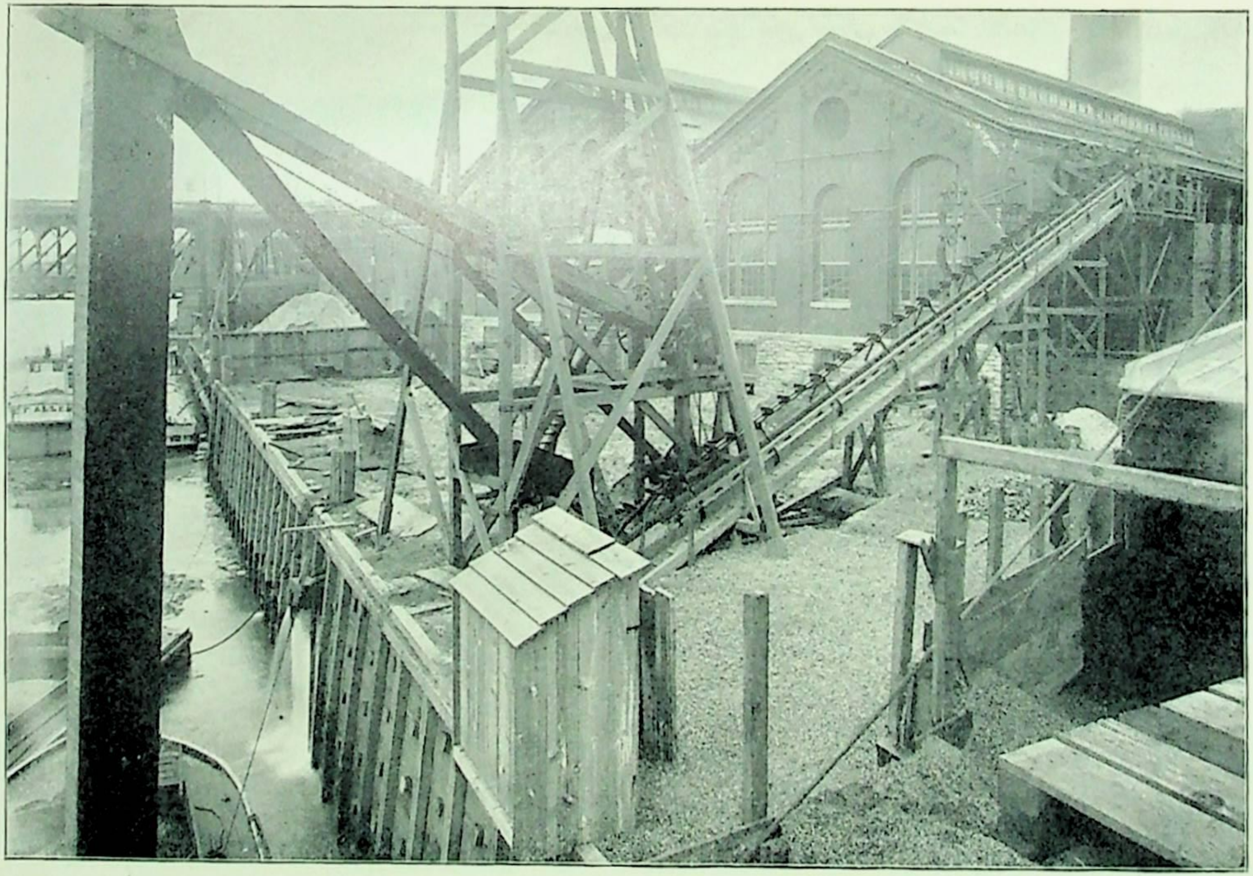
North Chicago Street Ry. Co., Chicago.
Metropolitan West Side Elev. R.R. Co., Chicago.
Glucose Sugar Refining Co., Chicago and Peoria.
Auditorium Hotel, Chicago.
Western Electric Co., Chicago.
P. Schoenhofen Brewing Co., Chicago.
Anglo-American Pkg. & Prov. Co., Chicago.
People's Gaslight and Coke Co., Chicago.
Swift & Co., Chicago.
Morgan & Wright, Chicago.
Universal Gas Co., Chicago.
American Sugar Refining Co. (3 plants), New Orleans.
American Sugar Refining Co., Brooklyn, N. Y.
American Sugar Refining Co., Boston, Mass.
American Sugar Refining Co., Greenpoint, N. Y.
American Sugar Refining Co., Jersey City, N. J.
Illinois Steel Co (2 plants), South Chicago, Ill.
Illinois Steel Co. (2 plants), Joliet, Ill.
National Carbon Co., Cleveland, O.
Pabst Light, Heat and Power Co., Milwaukee, Wis.
Washburn & Moen Mfg. Co., Waukegan, Ill.
Pabst Brewing Co., Milwaukee, Wis.
University of Wisconsin, Madison, Wis.
University of Illinois, Champaign, Ill.
Standard Oil Co., Brooklyn, N. Y.
Philadelphia Traction Co. (3 plants), Philadelphia, Pa.
West End Street Railway Co., Boston, Mass.
Pennsylvania Railroad Co. (2 plants), Altoona, Pa.
Cass Ave. and Fair Grounds Railway Co., St. Louis, Mo.
New York Edison Co., Elm and Pearl Sts., New York.
Brooklyn City Railway Co., Brooklyn, N. Y.
Third Ave. Cable R.R. Co., New York.
Broadway and Seventh Ave. R.R. Co, New York.
Spreckles Sugar Refining Co. (2 plants), Philadelphia, Pa.
Edison Electric Illuminating Co., Brooklyn, N. Y.
Cambria Iron Co., Johnstown, Pa.
Tide Water Oil Co, Bayonne, N. J.
Municipal Electric Lighting Co., Brooklyn, N. Y.
Newark Electric Lighting Co., Newark, N. J.
Atlantic Avenue R.R. Co., Brooklyn, N. Y.
Neidlinger & Son, New York.
Reliable Steam Power Co., Brooklyn, N. Y.
Mount Morris Electric Co., New York.
Union R.R. Co. of New York, West Farms, N. Y.
Nelson Morris & Co., E. St. Louis, Ill.
Swift & Co., St. Joseph, Mo.
Link-Belt Machinery Co, Chicago.



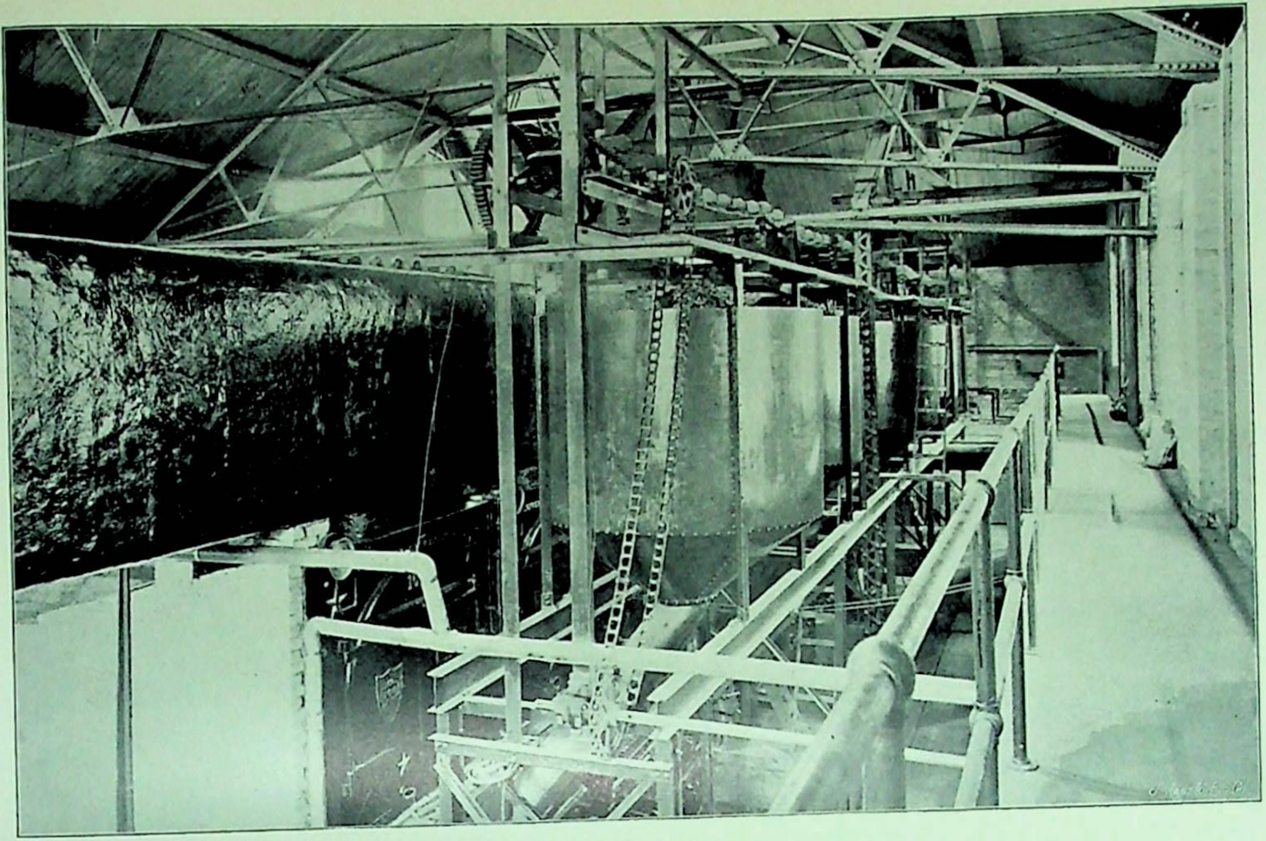
Boiler Room, Hawthorne Avenue Power House, North Chicago Street Railway Co., Chicago.

Coal is delivered by wagons into Conveyor located under sidewalk, discharging into elevator at end of room, which in turn discharges into Conveyor running over cylindrical coal pockets shown. Capacity, 30 tons nut coal per hour.

Separate elevators and pockets are provided at each end of house for ashes. Erected 1895.



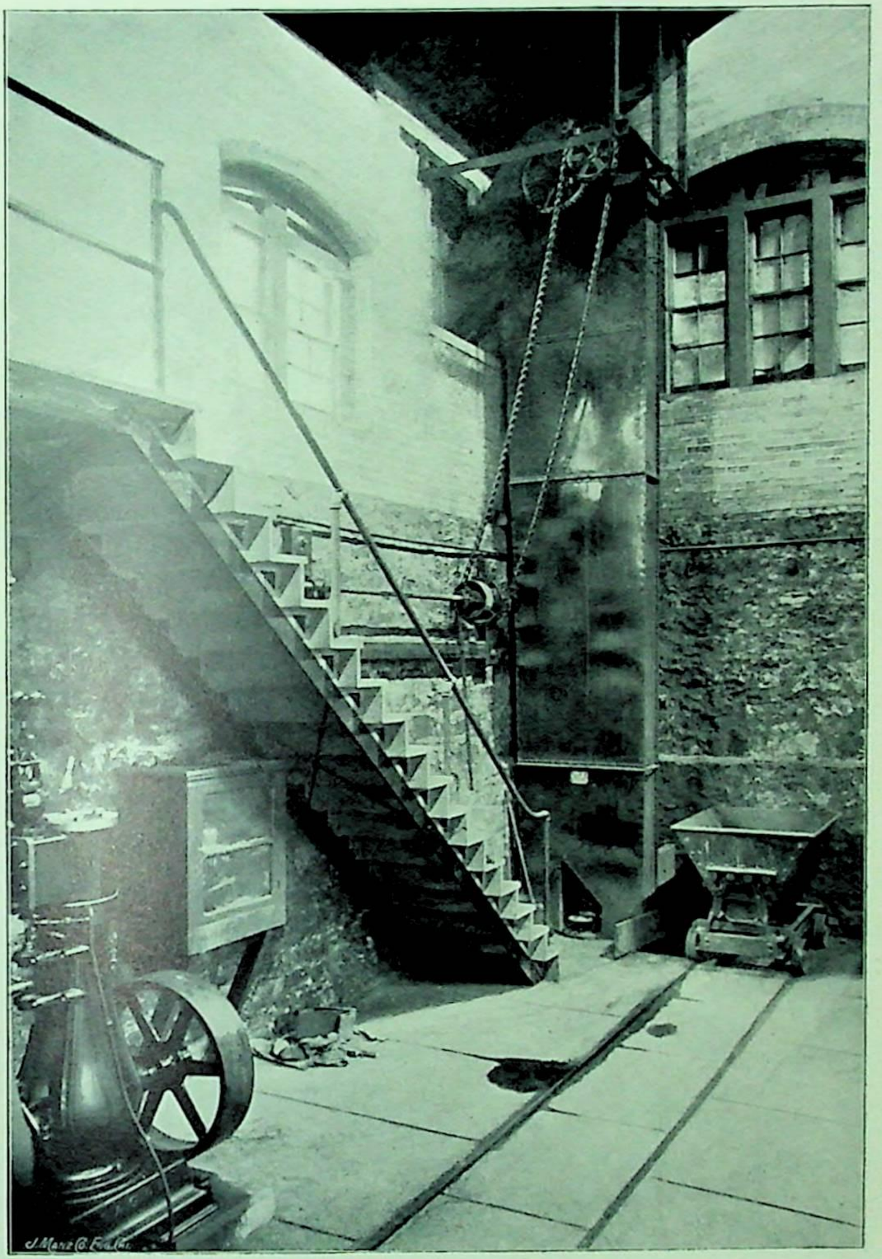
Steel Cased Dock Log Elevator and Inclined Conveyor at power house of the Hestonville, Mantua & Fairmont Park Railway Co., Philadelphia, Pa. Dock Leg 41 feet centers with 14x7 buckets on two strands No. 103 Link-Belt Capacity during test of eight hours run, 27 tons nut per hour.



Boiler room of the University of Wisconsin, Madison, Wis., showing

COAL HANDLING MACHINERY.

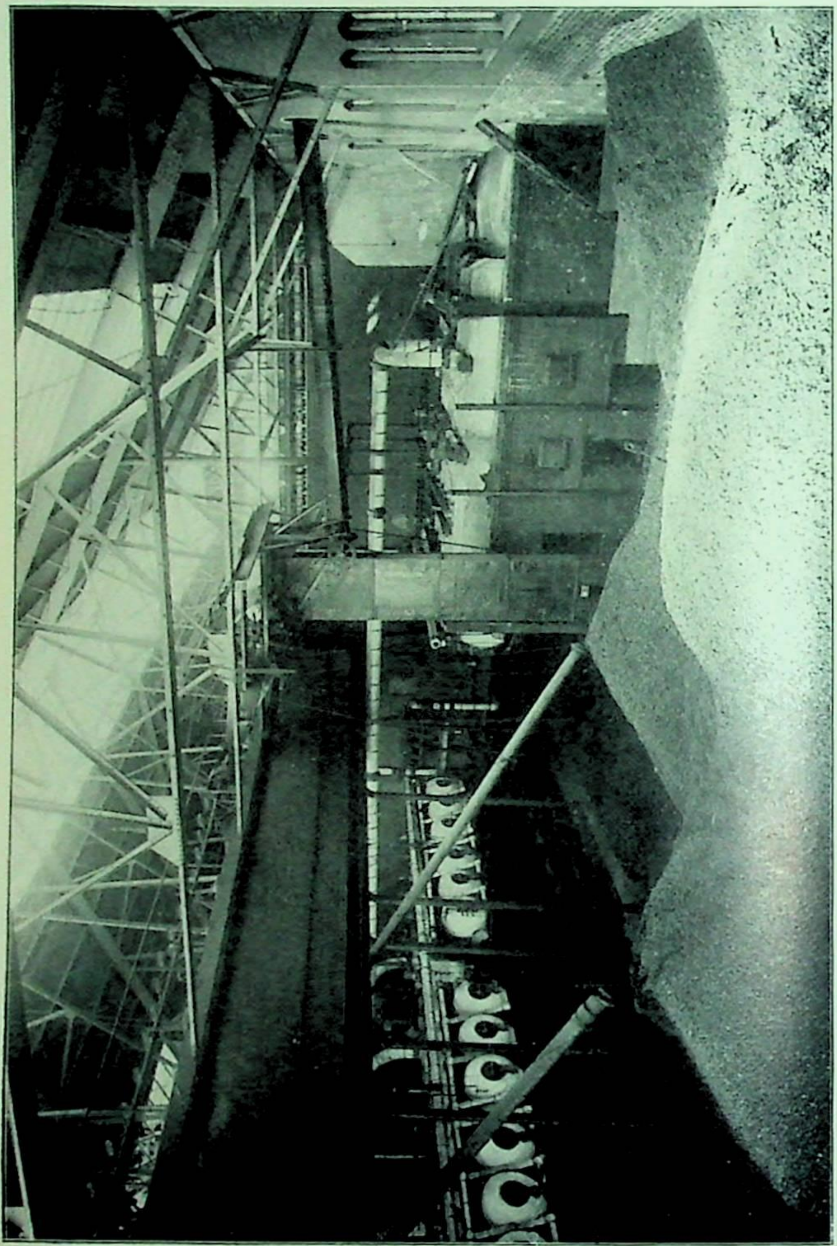
Coal is elevated from storage pocket at further end of building by Perfect Discharge Elevator, not seen in cut. This delivers to Link-Belt Conveyor running over cylindrical tanks in front of the boilers. Capacity of tanks, 8 tons each. Erected 1894.



Corner of boiler room, University of Wisconsin, Madison, Wis. showing

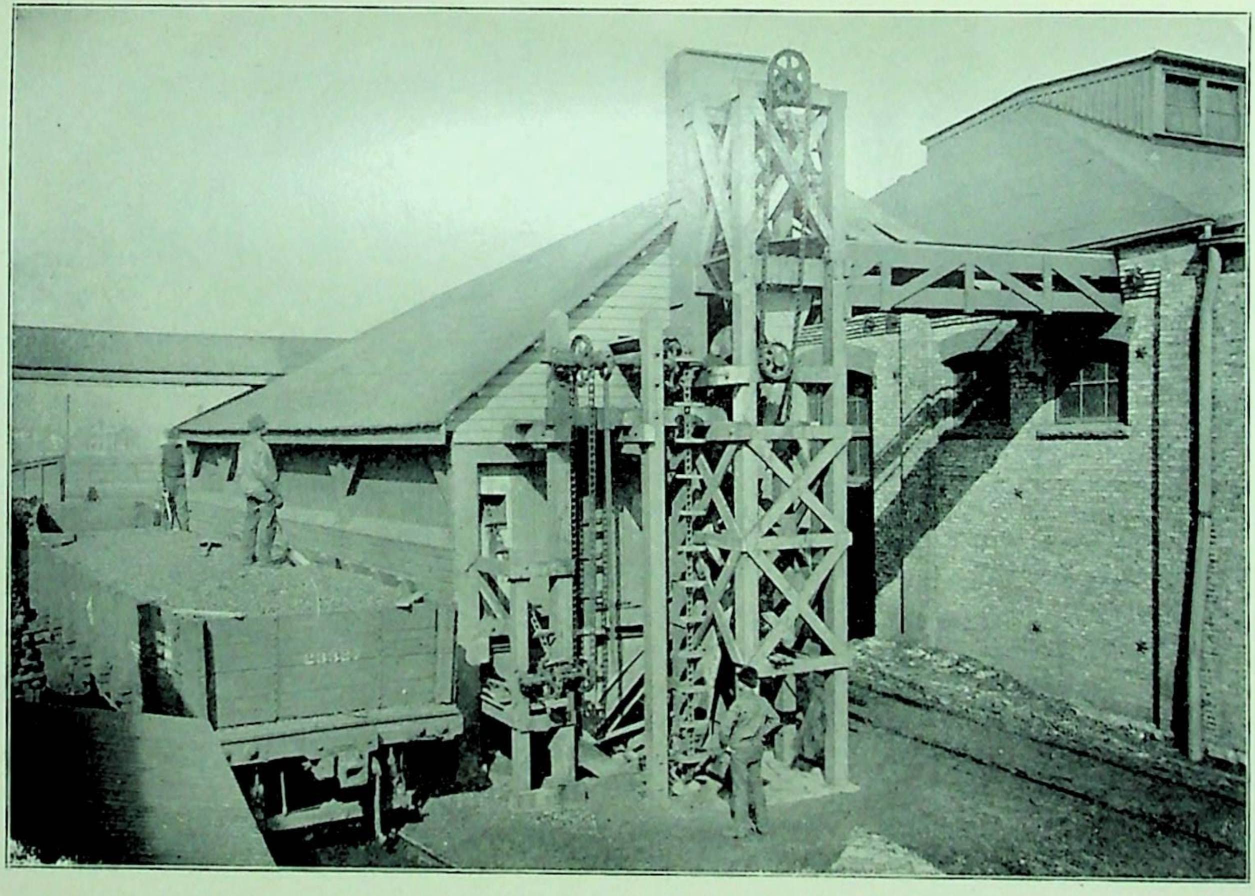
ASHES ELEVATOR

Employing Ley Steel Bushed Chain. Ashes are carried from boilers in tilting car seen in cut. Detail view of car shown on page 62.



BOILER ROOM

In Beach Street Power House, Union Traction Co., Philadelphia, Pa. Suspended steel Coal Hoppers with Distributing Conveyor and Steel Cased Ashes Elevator and Conveyor. Part of complete coal and ashes handling plant.



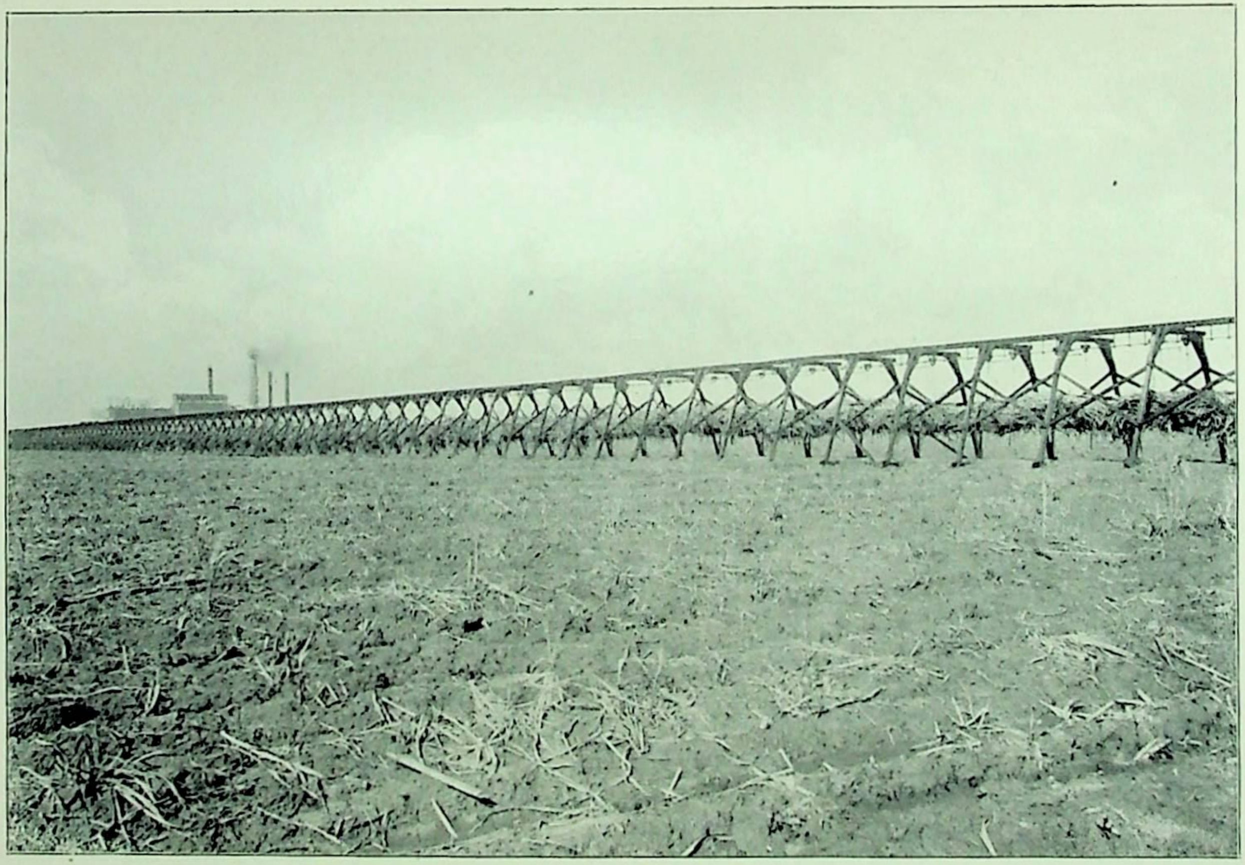
250 TON COAL POCKET

At Works of the Link-Belt Machinery Co., Chicago. View shows Conveyor receiving coal from car and delivering to Elevator. Elevator delivers to a Conveyor, which distributes in pocket, or to another Conveyor leading directly to boiler room. Other Conveyors supply coal from pocket to Elevator and distribute into pockets over boilers.

Cane and Beet Sugar Refineries and Plantations.

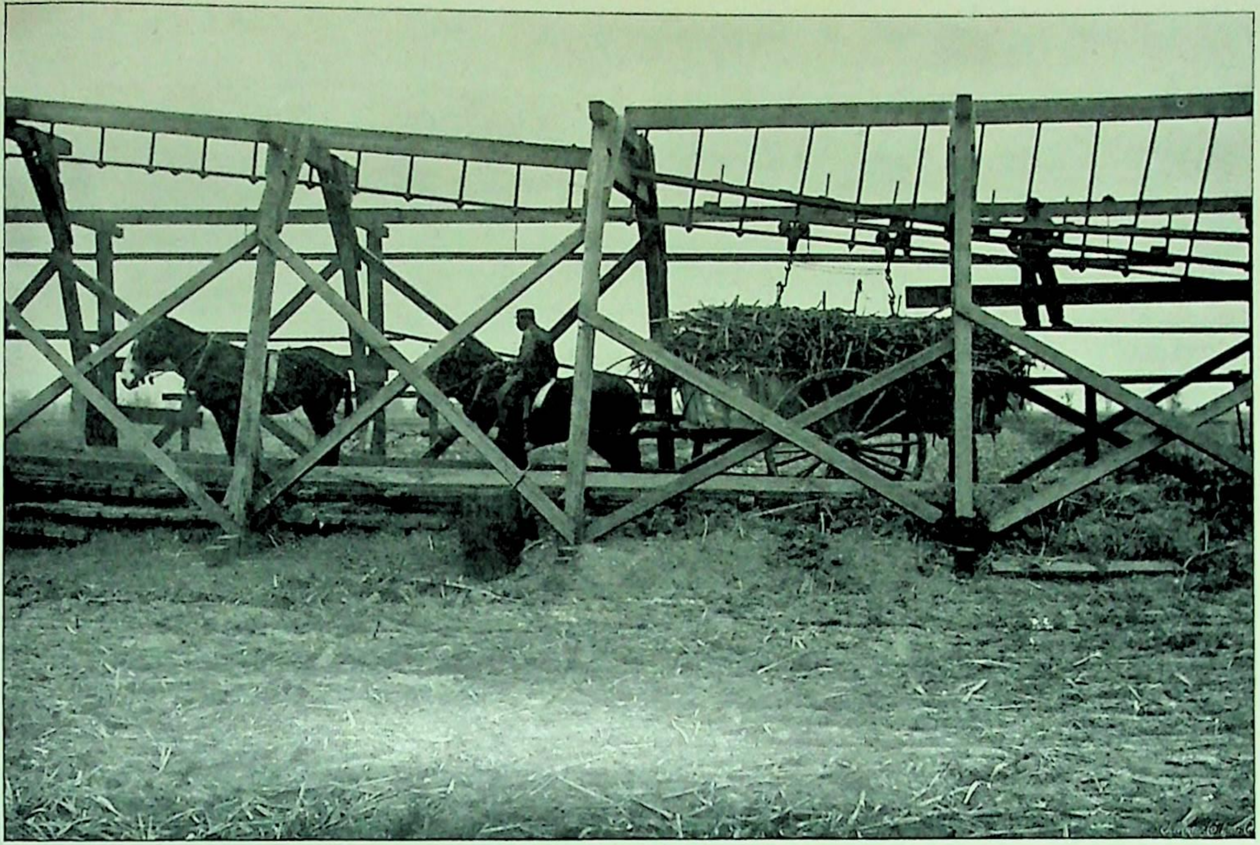
The adoption of modern methods in the handling of sugar cane and its products from field to refinery has greatly simplified and cheapened the cost of producing sugar.

By the use of Link-Belt appliances, the cane is taken from the field by cane transfer and storage railway, delivered to cane carrier feeder in storage shed, transferred to rolls, the residue or bagasse being finally discharged in boiler-room for fuel, or conducted to auxiliary plants for the manufacture of paper, etc.



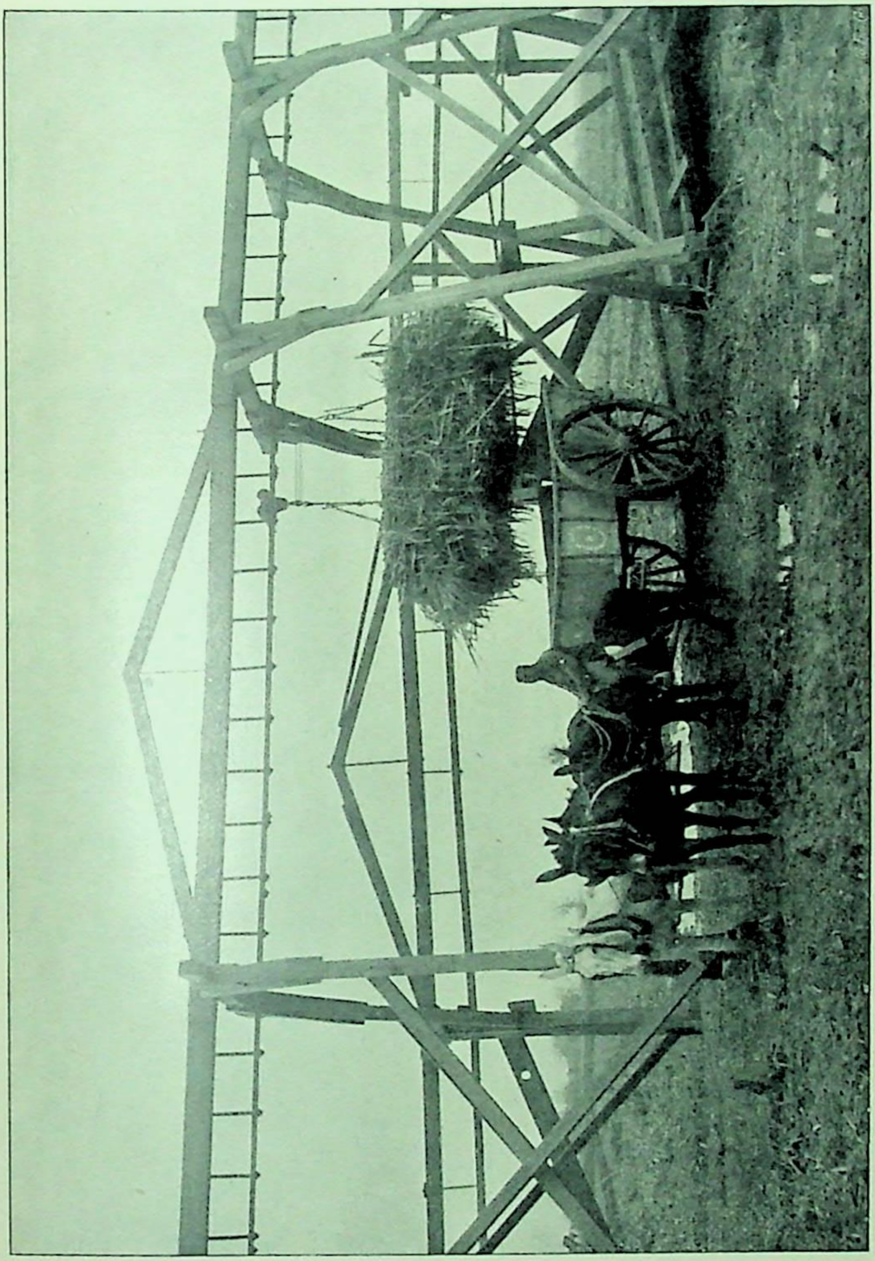
CANE TRANSFER AND STORAGE RAILWAY

On Germania Plantation of Geo. B. Reuss. View shows the entire structure of 3,000 feet loaded with cane, each load weighing two tons, in process of delivery to sugar house seen in distance. Maximum storage capacity, 600 tons.



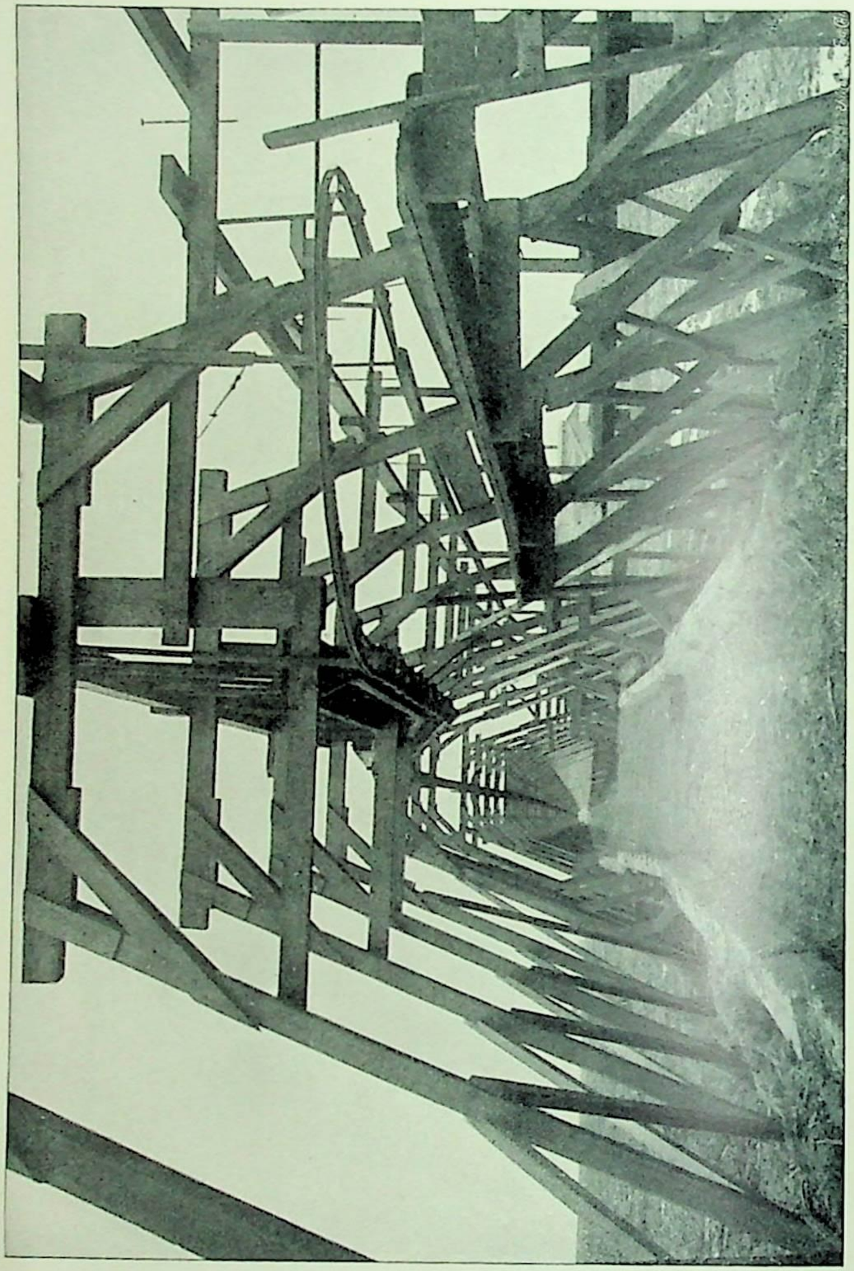
CANE TRANSFER AND STORAGE RAILWAY.

Geo. B. Reuss, Germania Plantation, showing load of cane in slings, being attached to trolley hooks ready to leave cart.



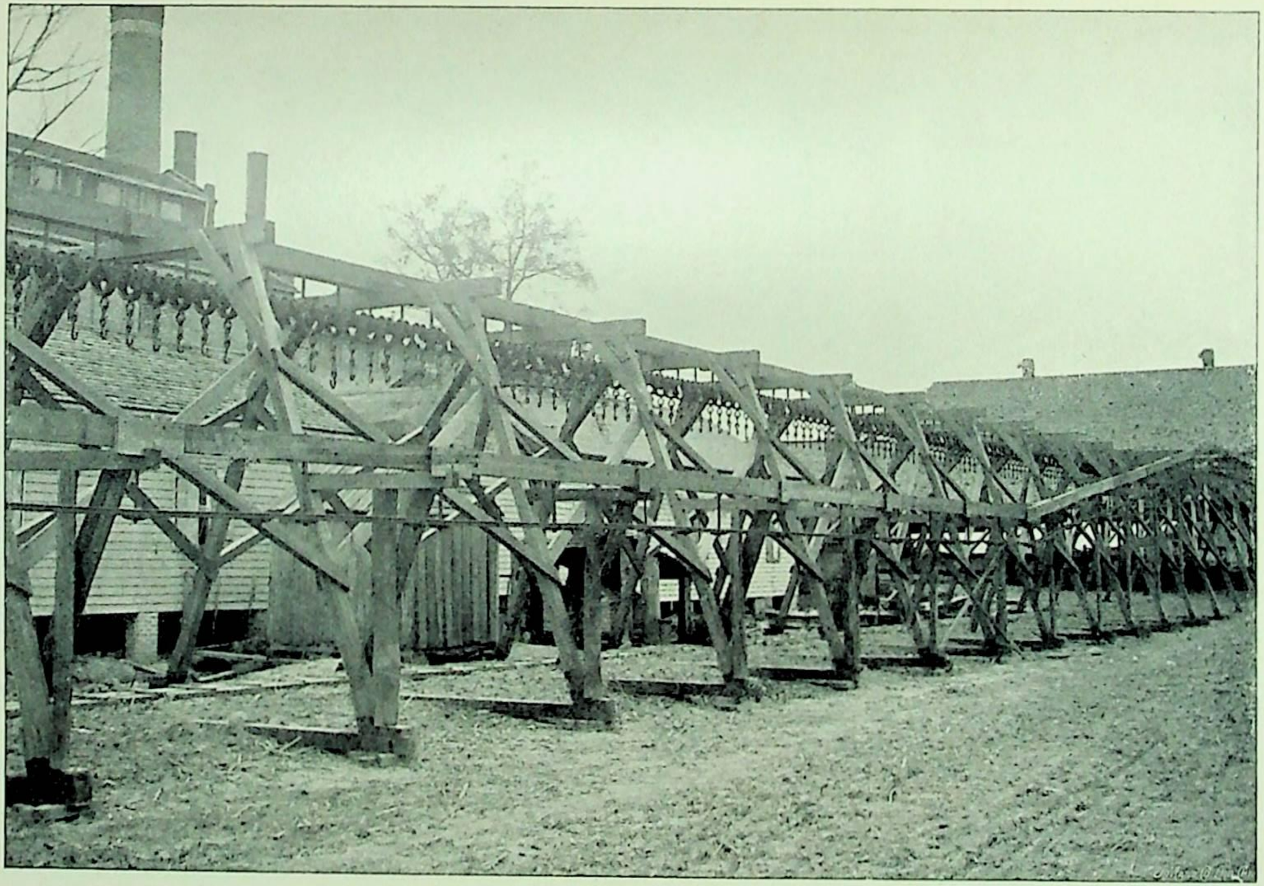
VIEW CANE TRANSFER AND STORAGE RAILWAY,

Geo. B. Reuss, Germania Plantation, showing cane cart descending incline, leaving load suspended on track.



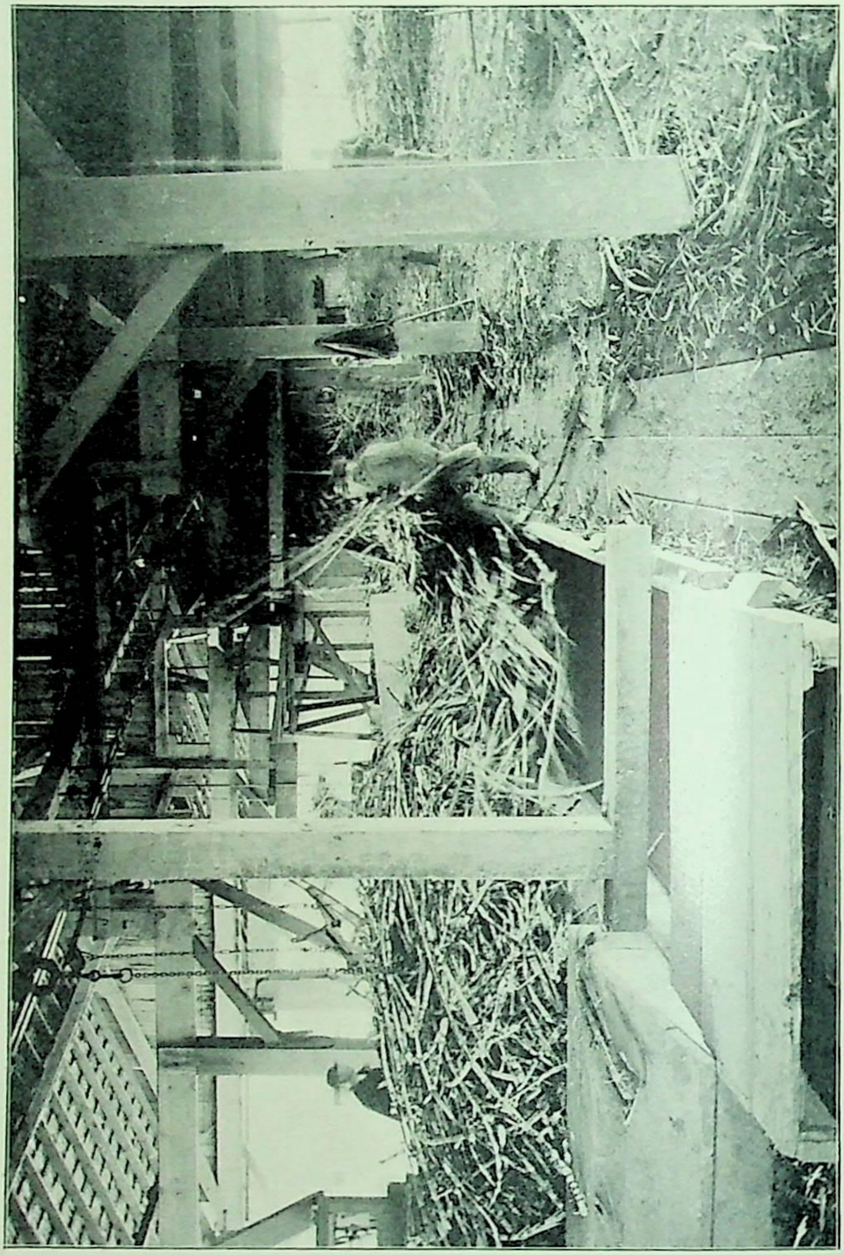
REAR END VIEW CANE TRANSFER AND STORAGE RAILWAY.

Geo. B. Reuss, Germania Plantation, showing rail on which trolleys are returned and point at which loads are taken from carts.



SECTION OF CANE TRANSFER AND STORAGE RAILWAY,

Showing trolleys that never leave the track and slings that never dump the load except in the right place. Designed and erected, 1896, for Geo. B. Reuss, Germania Plantation.



Cane Carrier used in connection with Cane Transfer and Storage Railway, discharging end of which is seen to left, with load of cane still in slings, at Germania Plantation, Geo. B. Reuss, Prop.

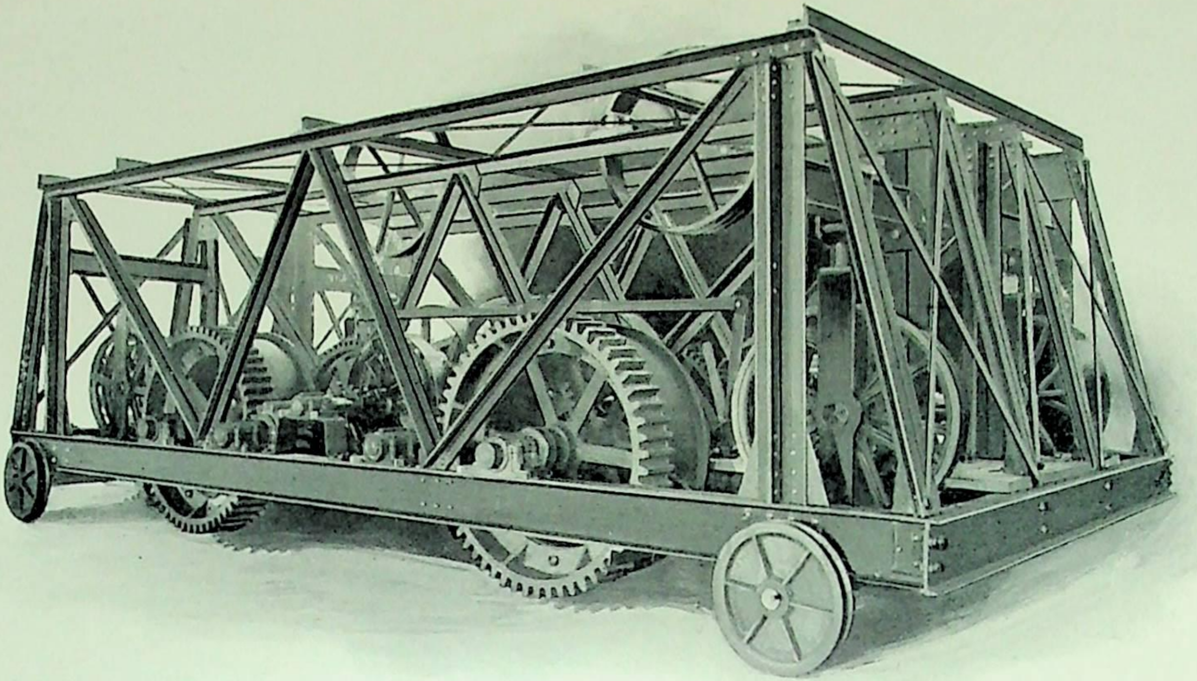
Traveling Cranes and Storage Inclines

designed to raise and transfer 20 to 25 ton loads of sugar cane from standard railroad cars to a Storage Incline, provided with cane carrier feeders, have been installed in the following Louisiana refineries:

Gramercy Co., Gramercy Refinery, postoffice address, Gramercy, La.
Jas. W. Barnett, Shadyside Refinery, postoffice address, Centreville, La.
Leon Godchaux, Reserve Refinery, postoffice address, St. Peters, La.
J. M. Burguieres, Cypremort Refinery, postoffice address, Louisa, La.
E. H. Cunningham & Co., Sugar Land, Texas.

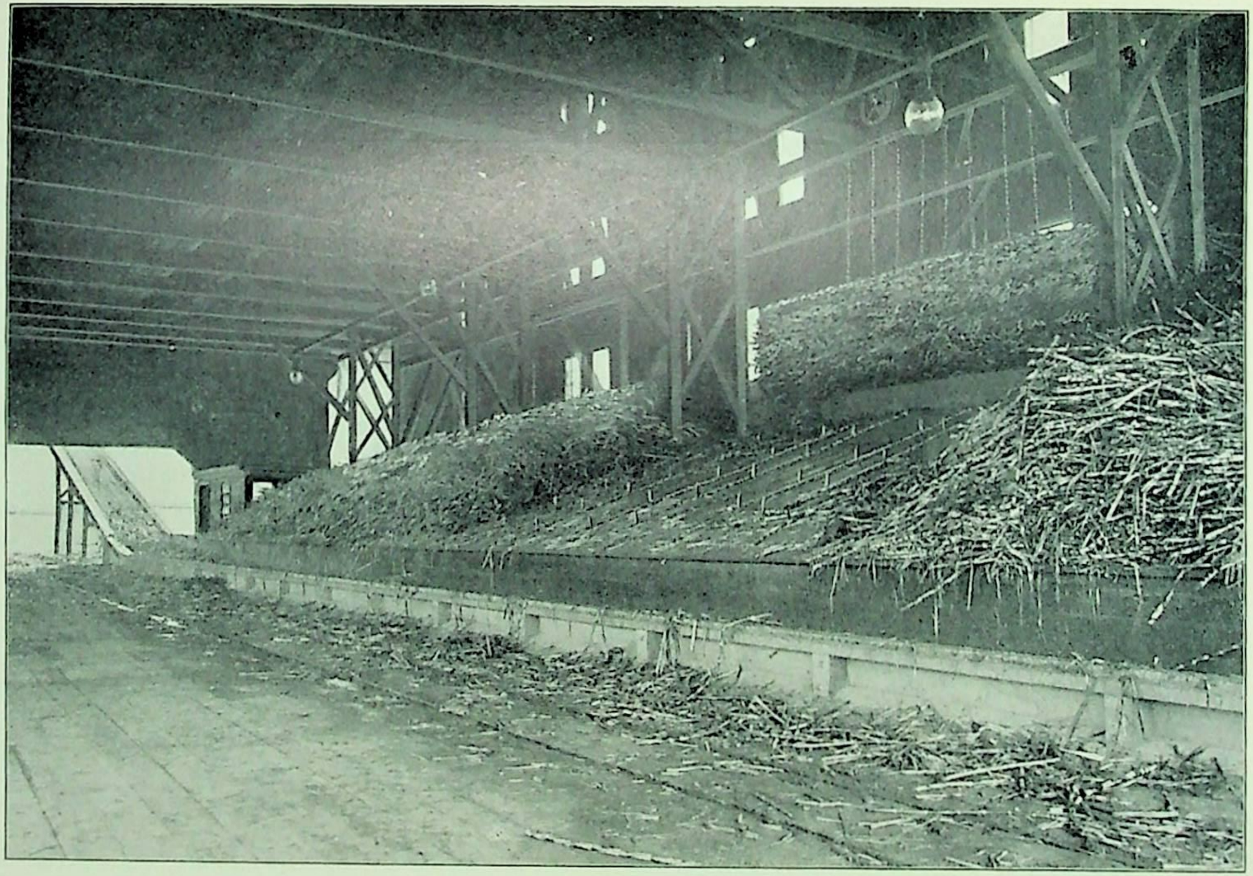
"The Cane Handling Apparatus you put in for me operated to my entire satisfaction. With it I was able to unload standard gauge cars of 25 tons capacity, and with the Incline Feeder was able, with four men, to feed my Carrier at the rate of 1,000 tons per day. (Signed) J. M. BURGUIERES.

"Feb. 15, 1898."



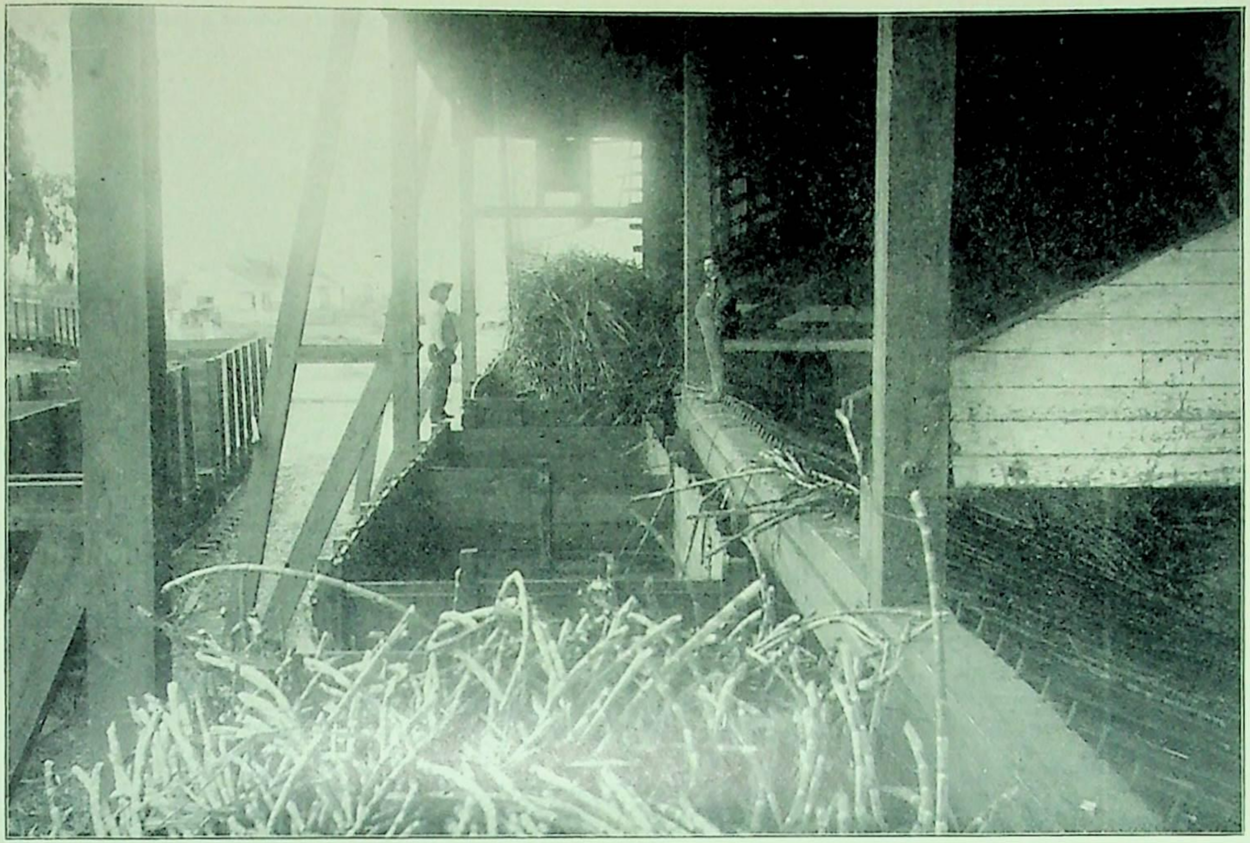
STANDARD CAR UNLOADING TRAVELING CRANE.

Capacity, 25 tons. Hoisting speed, 20 feet per minute. Power transmitted to Crane by Manila Rope for hoisting and traveling. This Crane is especially designed for unloading Sugar Cane out of railroad cars and for transferring the load to storage inclines, as seen in following two views.



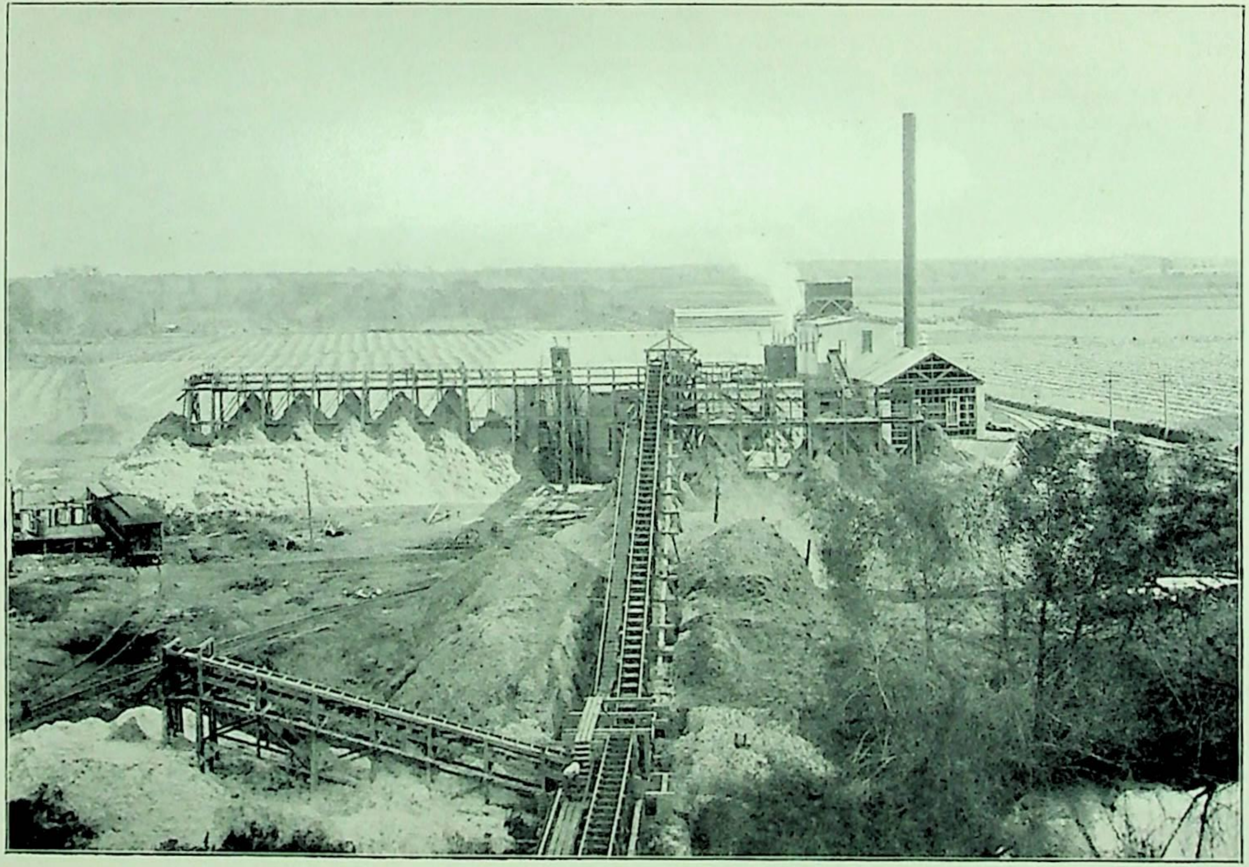
CANE SHED AND STORAGE INCLINE

At Reserve Plantation of Leon Godchaux. View shows 4 bays equipped with the "Link-Belt" Cane Carrier Feeder (Patent pending) and at bay No. 3 is seen a load of cane in act of being transferred by Standard Car Unloading Traveling Crane from railroad cars to the "Link-Belt" Cane Carrier Feeder which delivers it at a uniform rate to Cane Carrier located at foot of incline leading into the mill. The cane shed of J. M. Burguieres, Cypremont Refinery, having 3 bays, is also equipped with "Link-Belt" Cane Carrier Feeders.

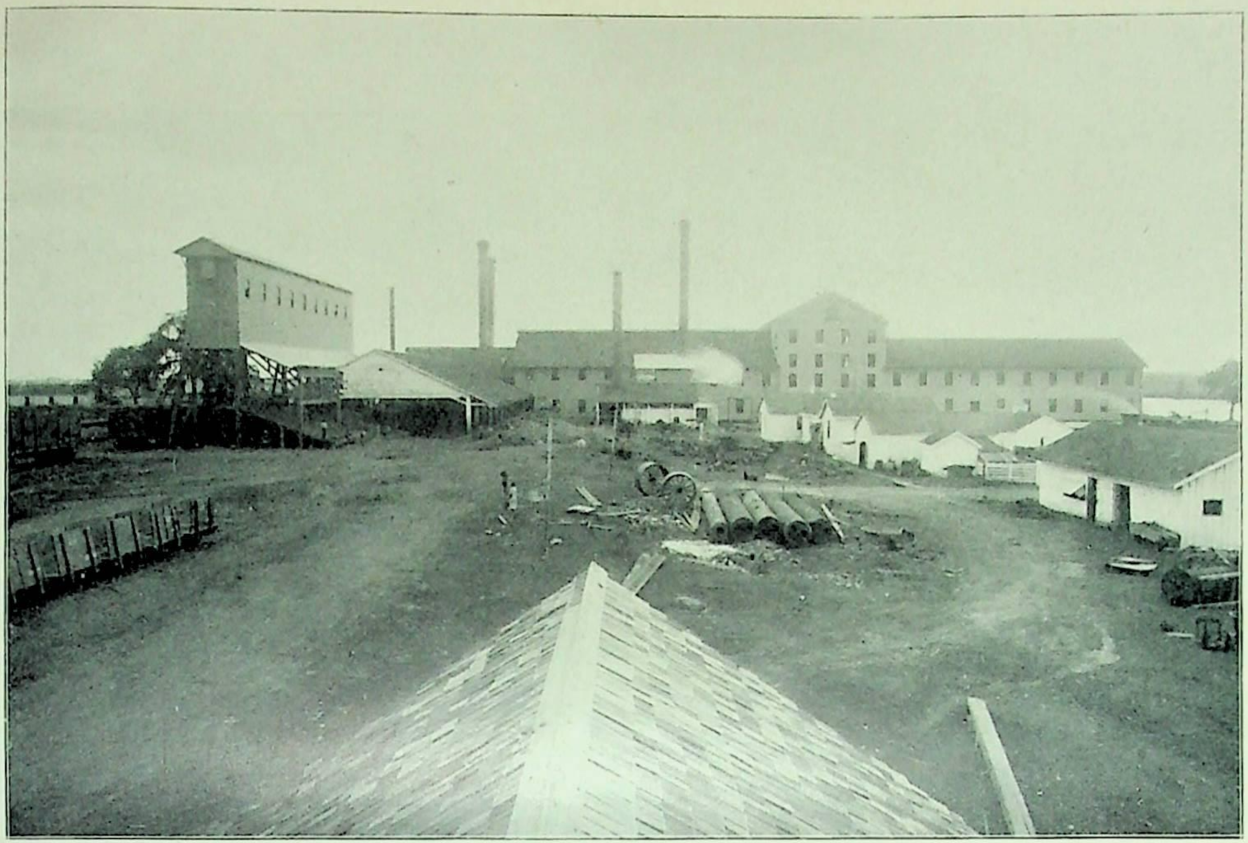


CANE SHED AND STORAGE INCLINE

At J. W. Barnett's Shady Side Refinery. View shows railroad car being unloaded (20 tons sugar cane hoisted) by Standard Car Unloading Traveling Crane.



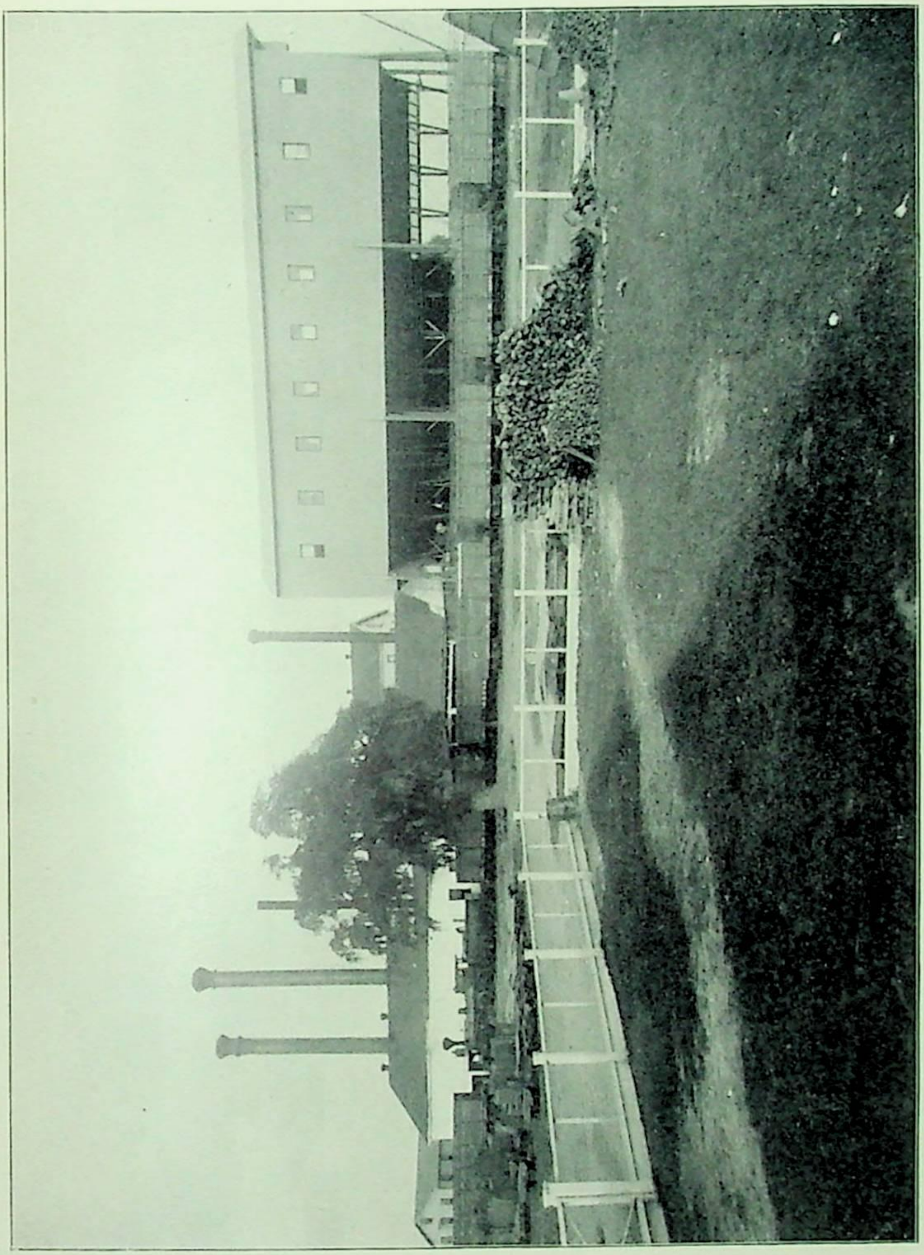
Above view shows the paper mill of E. H. Cunningham & Co., Sugar Land, Texas, provided with Bagasse Carriers employing double strand "Monobar" chain (conveyors aggregating 700 feet centers), by means of which bagasse or diffusion chips are taken from the sugar mill and conveniently stored, to be finally used in paper mill.



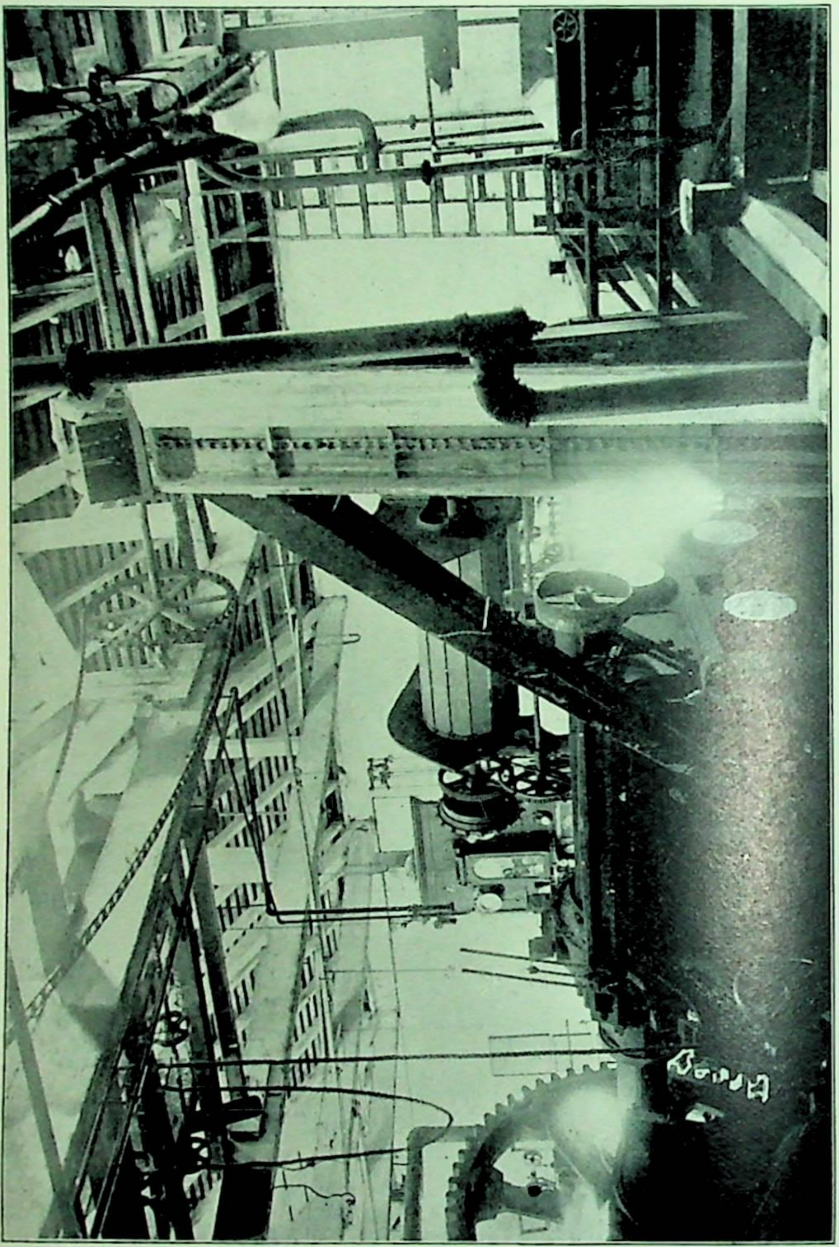
General view J. W. Barnett's Shady Side Refinery, Bayou Teche, La., showing at the left of the picture, tower for

TRAVELING CANE HOIST AND STORAGE INCLINE.

Cane is transferred from standard railway cars to storage incline by a Traveling Cane Hoist, capacity 25 tons. Operated by one man.

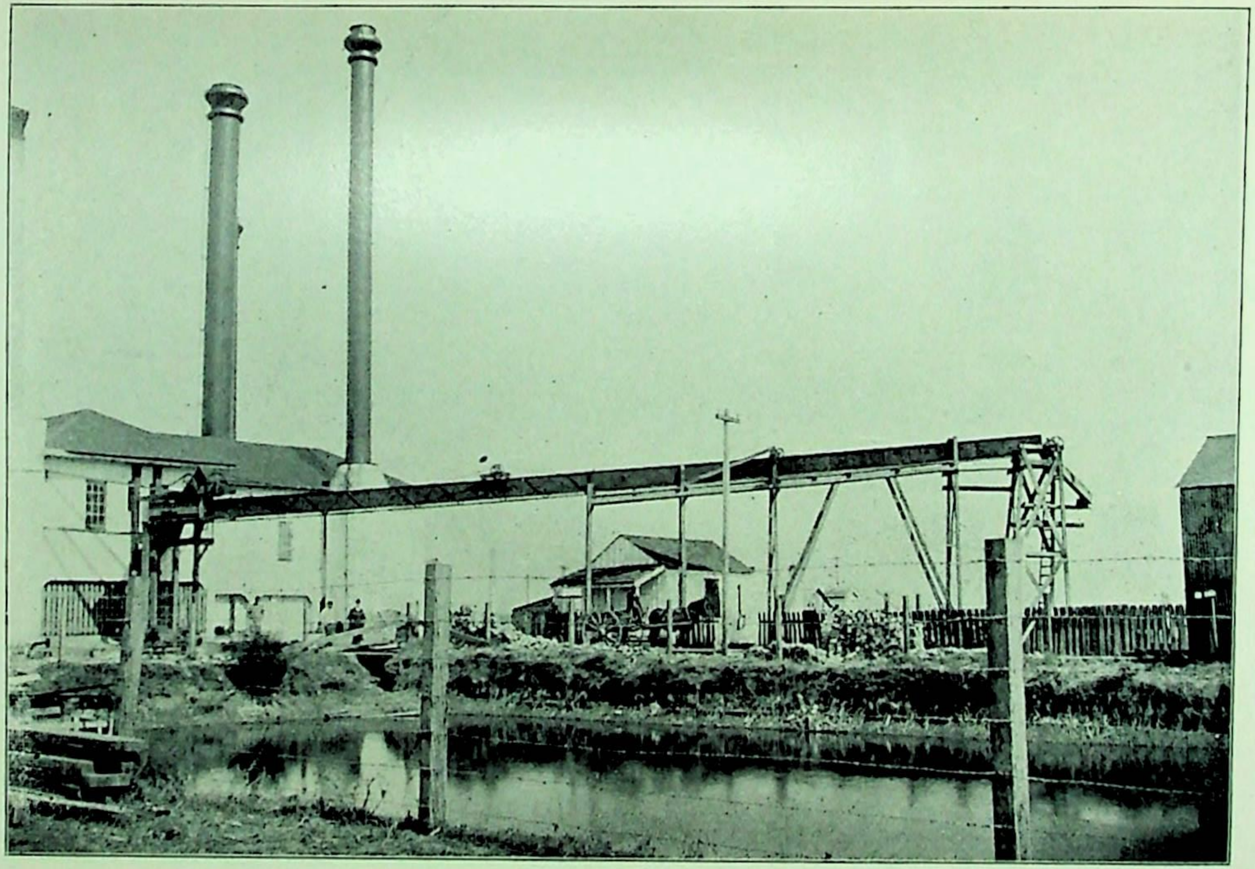


J. W. Barnett's Shady Side Refinery, showing side of Cane Hoist Tower, where standard railway cars are unloaded.



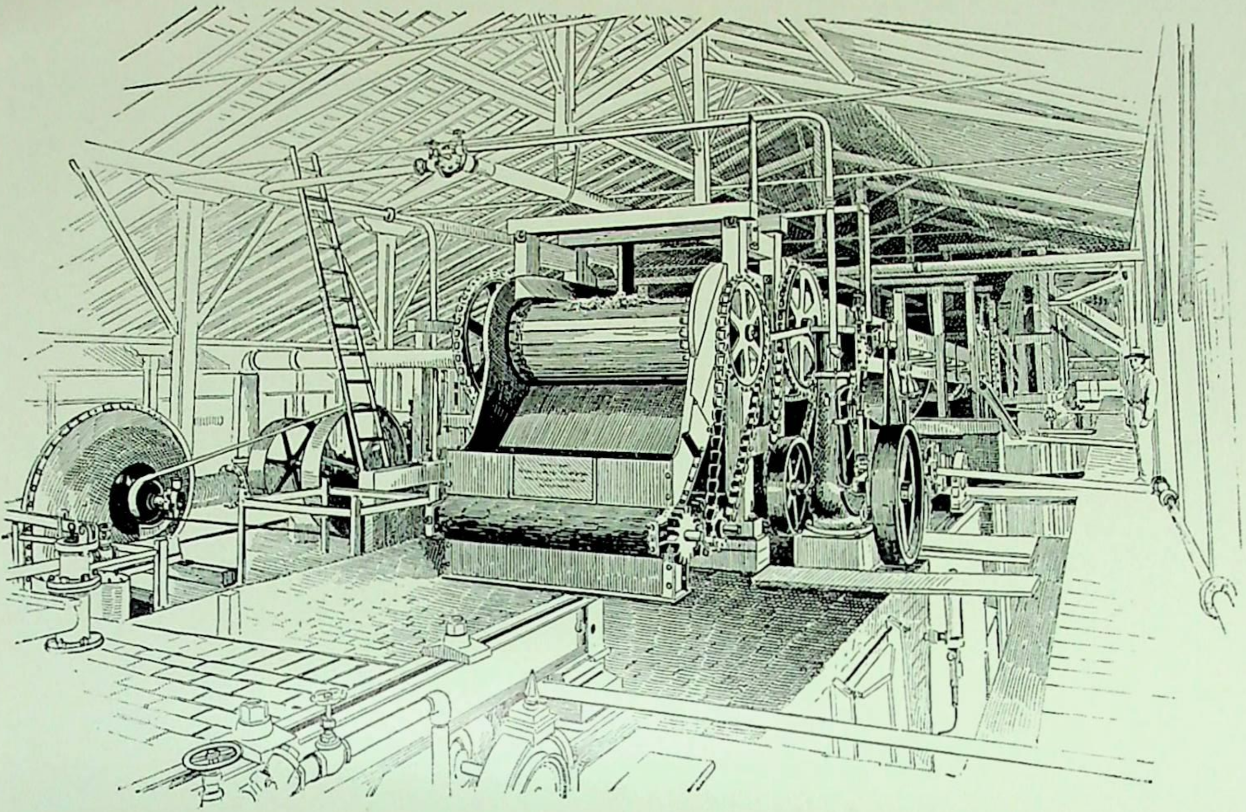
LINK-BELT ELEVATOR

In Refinery of E. & J. Kock, "Belle Alliance" Plantation, Assumption Parish, La.

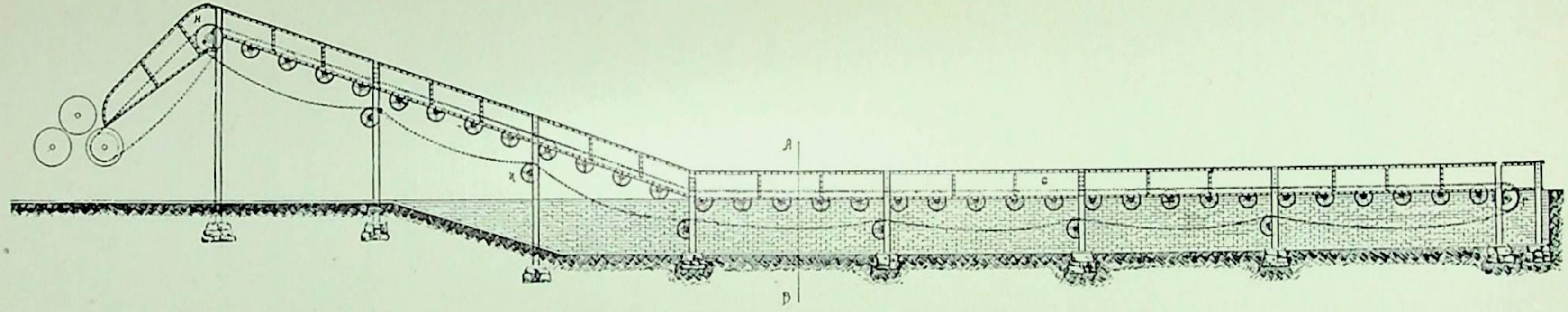


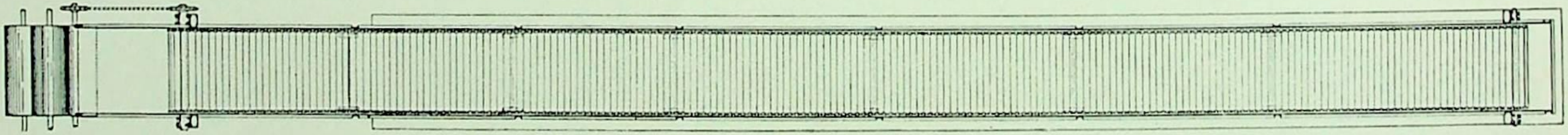
REFUSE CONVEYOR

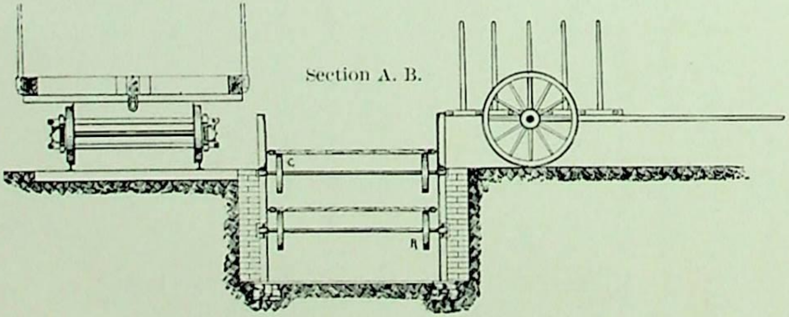
At Refinery of E. & J. Kock, "Belle Alliance" Plantation, Assumption Parish, La. Conveyor carries refuse from filter press, depositing same in pile 130 feet away. These conveyors, of any length and capacity, designed and erected to suit existing conditions and available space.



The above illustration is reproduced from a photograph taken on the Central Constancia of E. & J. Apezteguia, Cienfuegos, Cuba, and shows the Standard Cane Canductor feeding refuse to furnaces.



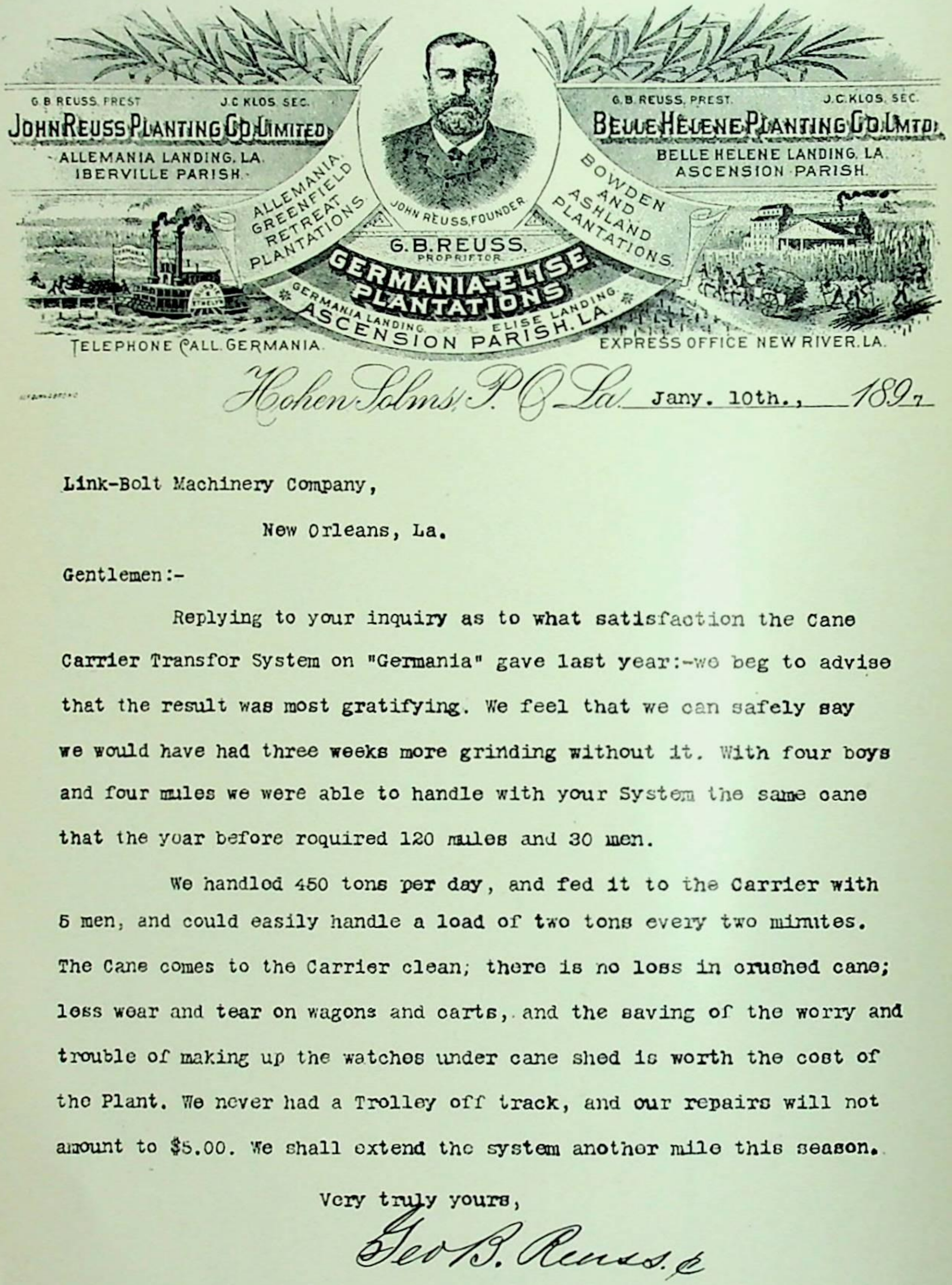



Section A. B.

Standard Cane Conductor

Supported by wrought iron frame. Depending upon its length, we use either No. 103 or 124 Link-Belting, Dodge chain or Special Riveted chain shown on following pages.

In writing for estimates, state length and width of carrier, also whether wrought iron frame for supporting same is required.



G. B. REUSS, PREST. J. C. KLOS, SEC.
JOHN REUSS PLANTING CO. LIMITED
ALLEMANIA LANDING, LA.
IBERVILLE PARISH.

ALLEMANIA, GREENFIELD, RETREAT PLANTATIONS

JOHN REUSS, FOUNDER

G. B. REUSS, PROPRIETOR
GERMANIA-ELISE PLANTATIONS
GERMANIA LANDING. ELISE LANDING.
ASCENSION PARISH, LA.

BOWDEN AND ASHLAND PLANTATIONS.

G. B. REUSS, PREST. J. C. KLOS, SEC.
BELLE HELENE PLANTING CO. LMTD.
BELLE HELENE LANDING, LA.
ASCENSION PARISH.

TELEPHONE CALL GERMANIA. EXPRESS OFFICE NEW RIVER, LA.

Hohen Solms, P. O. La. Jany. 10th., 1897

Link-Bolt Machinery Company,

New Orleans, La.

Gentlemen:-

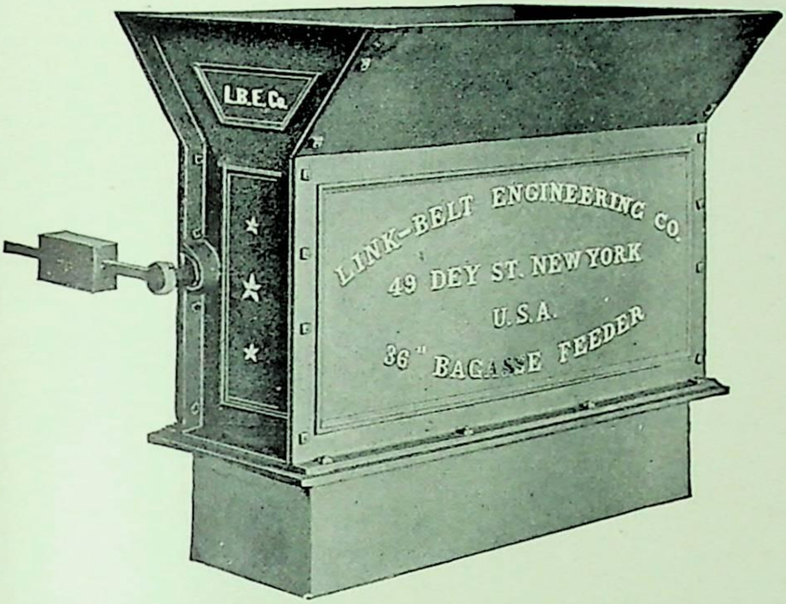
Replying to your inquiry as to what satisfaction the Cane Carrier Transfer System on "Germania" gave last year:-we beg to advise that the result was most gratifying. We feel that we can safely say we would have had three weeks more grinding without it. With four boys and four mules we were able to handle with your System the same cane that the year before required 120 mules and 30 men.

We handled 450 tons per day, and fed it to the Carrier with 5 men, and could easily handle a load of two tons every two minutes. The Cane comes to the Carrier clean; there is no loss in crushed cane; less wear and tear on wagons and carts, and the saving of the worry and trouble of making up the watches under cane shed is worth the cost of the Plant. We never had a Trolley off track, and our repairs will not amount to $5.00. We shall extend the system another mile this season.

Very truly yours,

Geo B. Reuss

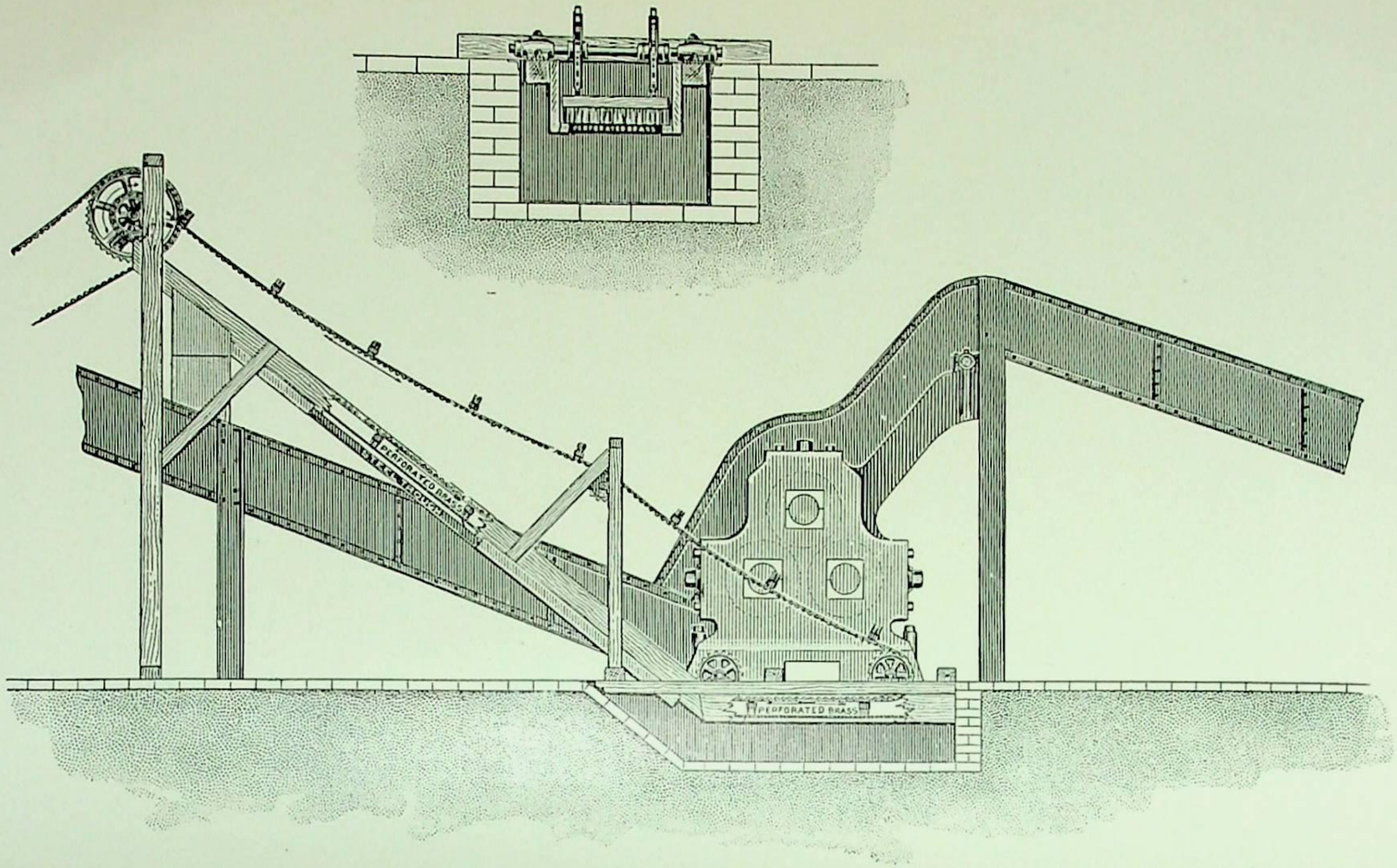
Automatic Bagasse Feeder.



This Feeder is of absolutely automatic action. The valve is opened by the weight of the Bagasse, and immediately closes after discharging its load, thus effectually preventing the escape of sparks and hot air. No cold air currents enter the furnace, and, therefore, the temperature is not lowered nor the combustion interfered with. Counterweighted levers are provided on both sides of the Feeder for controlling the opening and closing of the discharge door. The Feeders are furnished complete with base plate, and are of best possible material and construction, handsomely finished, and are made in the following sizes :

30 inches, complete with base plate.
36 inches, complete with base plate.
48 inches, complete with base plate.
60 inches, complete with base plate.
72 inches, complete with base plate.

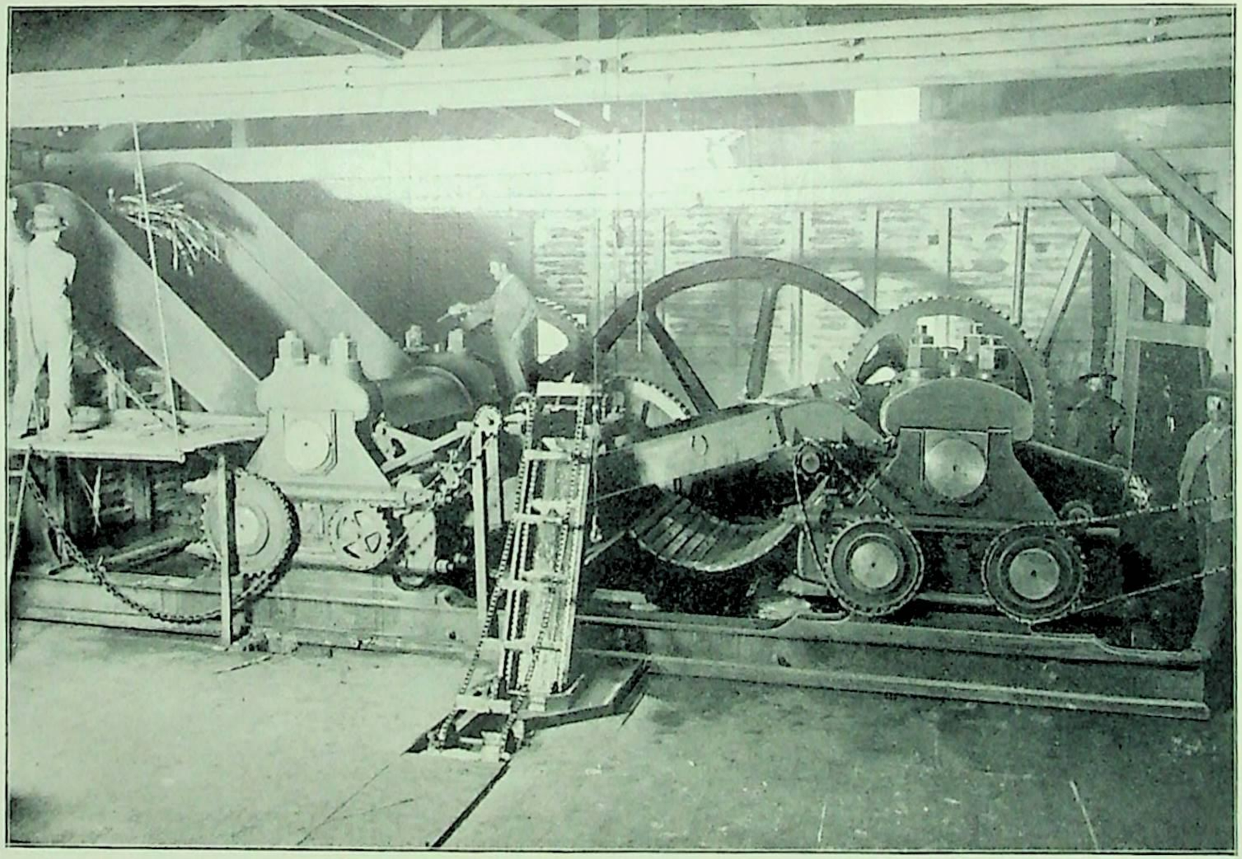
PRICES ON APPLICATION.



"LINK-BELT" JUICE STRAINER AND TRASH ELEVATOR.

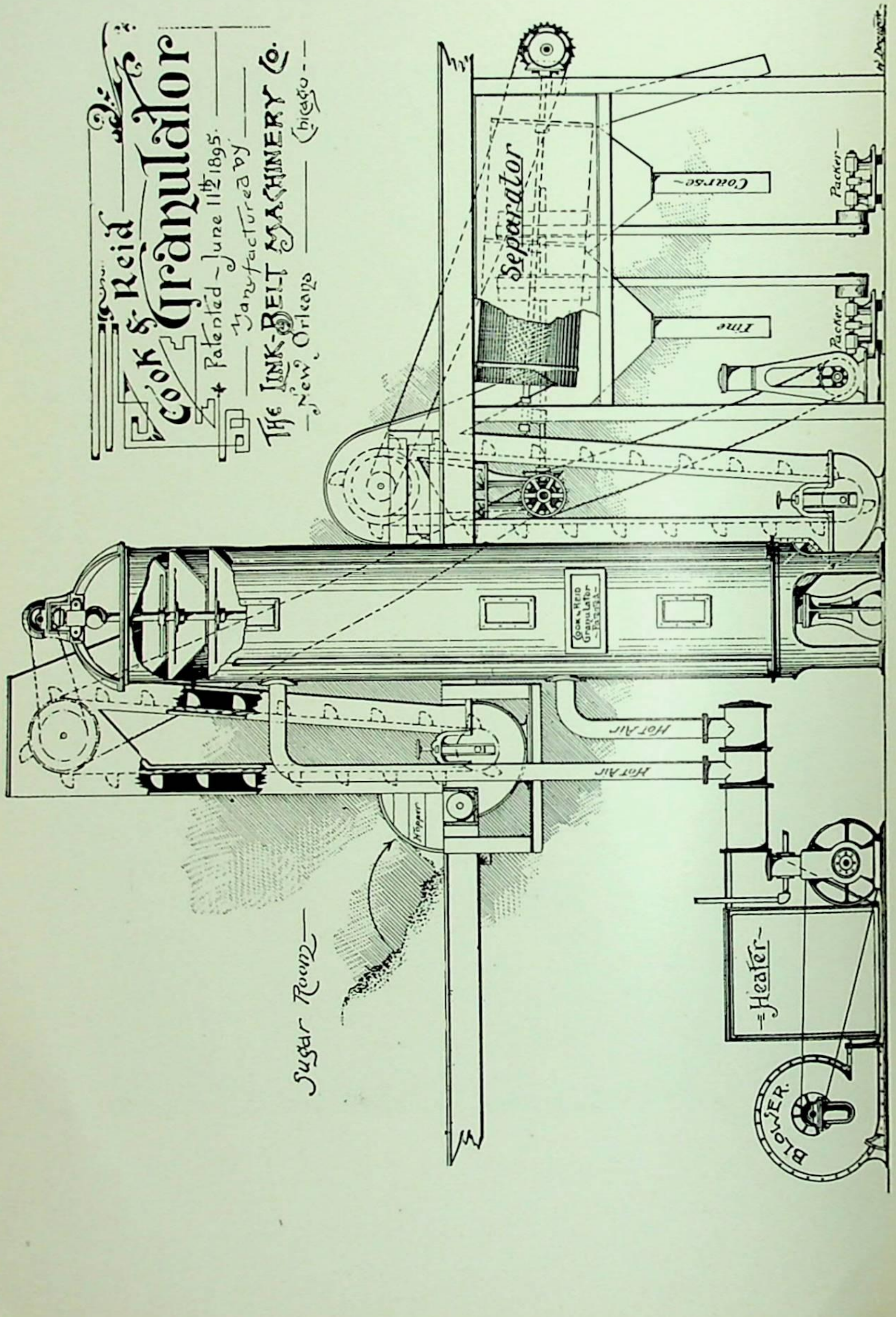
Is designed to clean the cane juice of the trash and small refuse, which runs with it out of the mill. The bottom of horizontal Conveyor Trough consists of finely perforated brass, through which the juice drains into tank, while the trash is carried up the incline and discharged into the intermediate carrier, where it mingles with the regular bagasse, and is carried off through the second mill into the burners.

The relative position of strainer to mill admits of great variety, and depends upon room and driving connections.



"LINK-BELT" JUICE STRAINER AND TRASH ELEVATOR,

Together with four "Link-Belt" drives at "Sport" plantation of F. Waguespack, Mount Airy Postoffice, Louisiana.


Cook & Reid Granulator
Patented – June 11th 1895.
Manufactured by
The Link-Belt Machinery Co.
New Orleans
Chicago
Separator
Course
Fine
Packer
Packer
Cook & Reid Granulator Patented
Hot Air
Hot Air
Hopper
Sugar Room
Heater
Blower.

Description.

Practical and exhaustive tests of the Cook & Reid Sugar Granulator and Dryer demonstrate the fact that this apparatus will extract every particle of moisture from sugars; and that, owing to low and uniform temperature maintained and to the peculiar construction of the apparatus, the granulated crystals are left with a very superior gloss and finish. Every grain remains entirely clear and separate, and it is impossible to burn or bake sugars, as frequently occurring in other machines, with the resulting dead color and caking of sugars.

Unlike the usual horizontal machines, our Granulator is upright, and, while economical in space, may be adapted to almost any location. The Granulator proper consists of a hollow cylindrical shell, with a series of inclined shelves smoothly attached inside. A vertical shaft extends throughout the center, and is provided with horizontal plates, as is shown in cut on opposite page.

The sugars are introduced into the top of Granulator by elevator or other means, and, when the shaft revolves, are thrown from one shelf and plate to another, descending through the current of hot air furnished by the blower and heater. The grains are, as in a snowstorm, in continual motion, and there is absolutely no chance for them to rest or accumulate.

When the sugar is discharged from the bottom of Granulator it is perfectly dry, and is subsequently elevated and assorted in the separating screens, the different grades falling into barrels agitated by the "Baldwin" Shaker, a modern device acknowledged to be superior to the old-style screw packer and the pounding eccentrics.

We are aiming to introduce a complete and perfect apparatus, and to this end use but the very best workmanship and material—engines, blowers, heaters, etc., of the most approved makes.

The machine has proved to be a pronounced success, both as a practical appliance and as a paying investment.

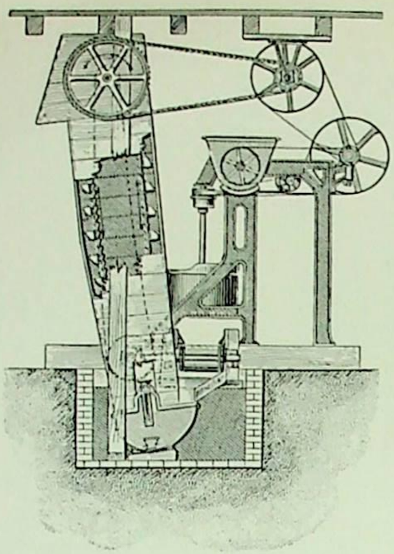
The "Anchorage" Refinery, which has operated the Granulator for the past two seasons, is known to have produced one of the highest grades of granulated sugars, and that without any extraordinary process, bleaching substances or filtering devices. With ordinary clarification and no expensive washing, this refinery has made white sugars, as many others have done, and by drying them in the COOK & REID GRANULATOR, they have put a product on the market which, a well-known New Orleans firm testifies, "compares very favorably with Standard Granulated made by the refineries."

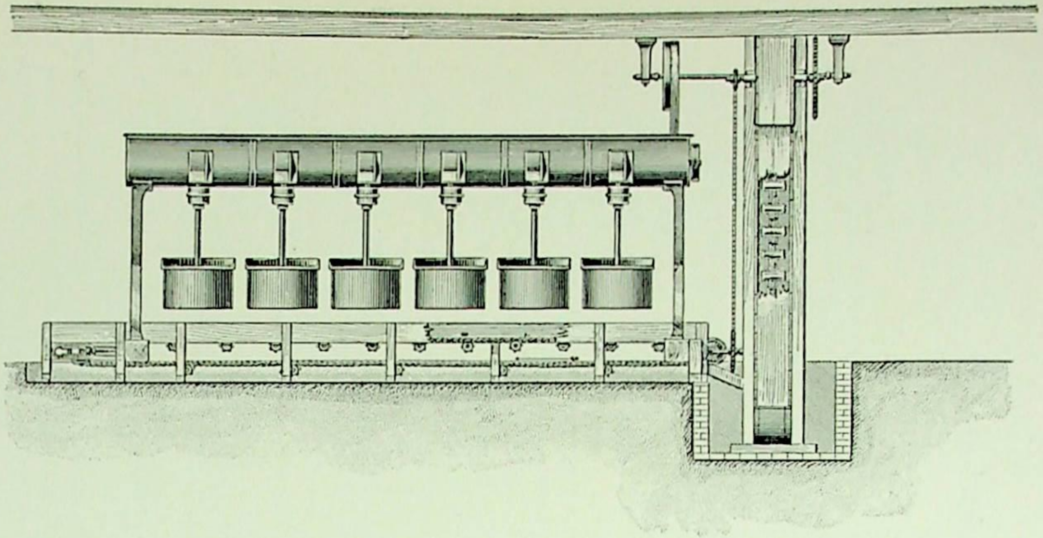
We will be pleased to submit plans and estimates to refineries and planters interested.

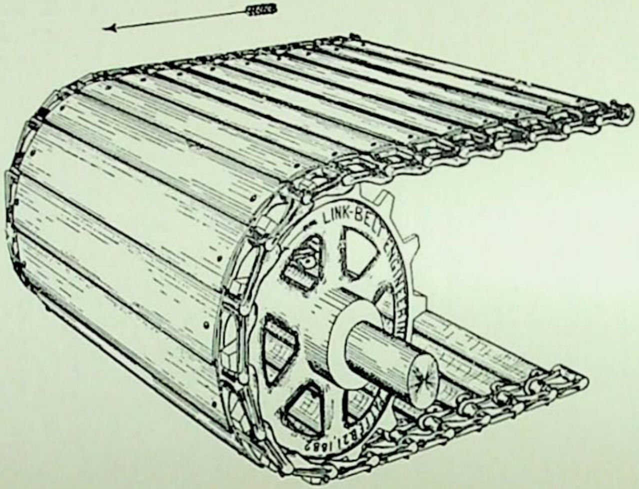
Office of MILLIKEN & FARWELL, Sugar Factors,
625 Gravier St., NEW ORLEANS, LA., JAN. 6, 1896.
MESSRS. COOK & REID, BATON ROUGE, LA.

DEAR SIRS.—The granulated sugar sold by us during the past season from the "Anchorage" Plantation was of an excellent quality, both in color and dryness, and always brought the top of the market. It compared very favorably with standard granulated made by the refineries. Yours respectfully,

MILLIKEN & FARWELL.





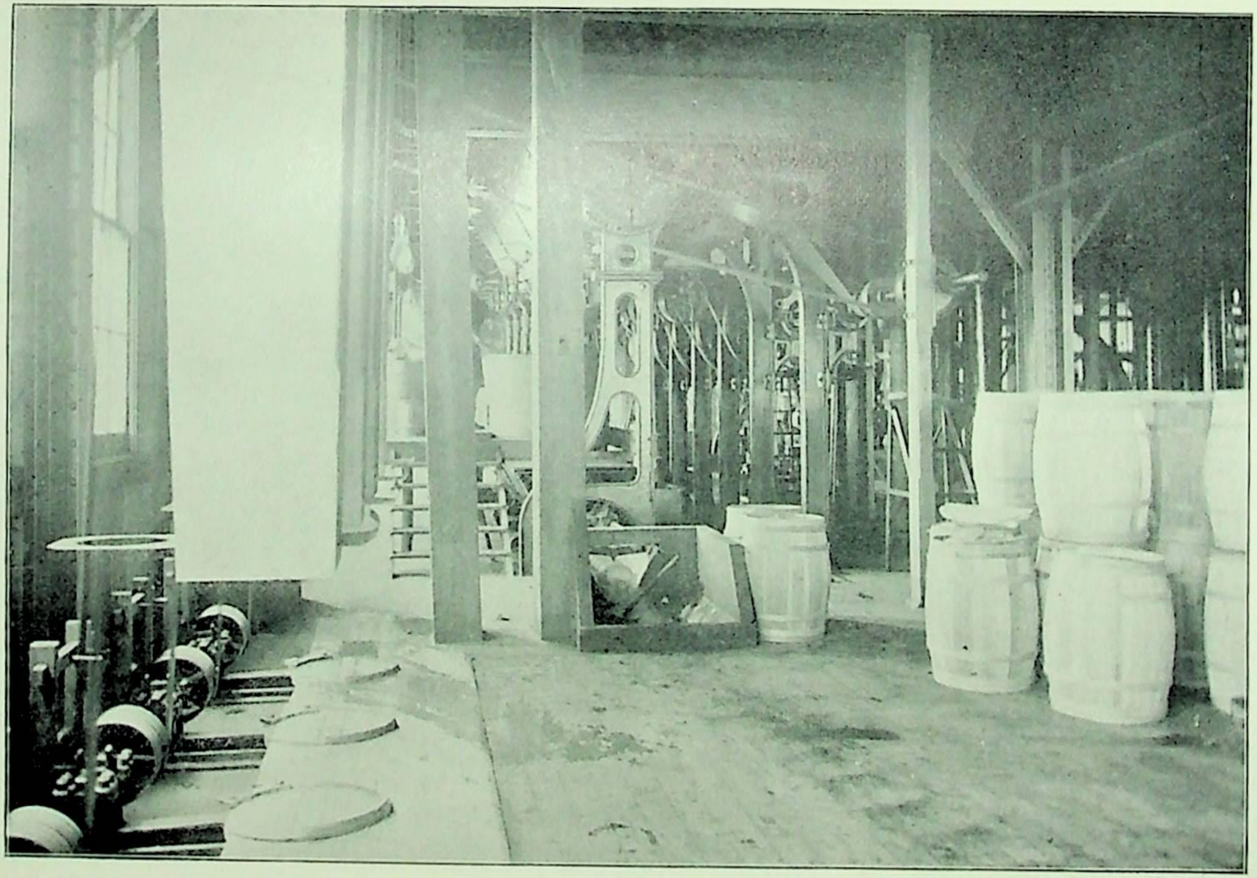


View herewith presents the usual arrangement of a Sugar Conveyor running under the centrifugals, and the elevator used in connection with it. The Conveyor consists of two strands of chain to which are riveted curved steel slats overlapping one another, thus forming an endless steel apron. For further description see page 60. It is in successful operation on many of the estates in Cuba, Hawaiian Islands, etc.

It requires less power to operate, and is much more desirable than the old forms of Conveyors. We will be pleased, however, to furnish Flat Belt or Screw Conveyors to those preferring.

The Elevator is of standard form, consisting of one strand of link-belting to which are attached galvanized buckets specially designed for handling this material.

When ordering or writing for estimates, refer to questions on page 6.

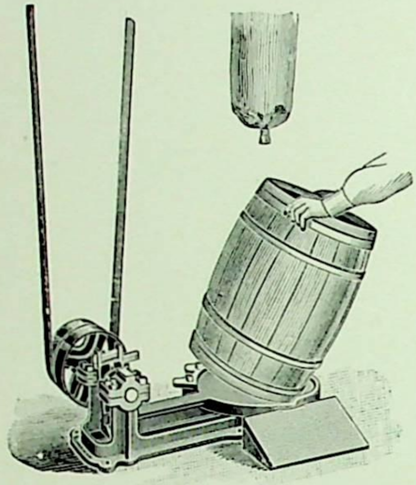


CENTRIFUGALS, SCREW CONVEYOR, SUGAR ELEVATOR AND BALDWIN SUGAR SHAKERS

At Reserve Refinery, Leon Godchaux, Prop.

Baldwin's Speedy Sugar Shaker

Do not stop the machine to take off the filled barrel. Take it off thus:



Surpasses any machine ever constructed for compacting sugar into a package.

It is a well known fact that the most effective means of getting a barrel full of sugar into a barrel is by shaking by hand a filled barrel on a solid floor.

This familiar shaking action this machine exactly duplicates; and it does it with almost electric rapidity.

The barrel to be filled stands on a heavy iron disk which is supported on trunions, and is oscillated by a lever extending from the disk to the crank-shaft, which has an eccentricity of about one-half inch, which causes the opposite sides of the disk to vibrate alternately up and down, and at every revolution to deliver two powerful shocks to the barrel. The disk is so heavy that it absorbs most of the shock from the barrel and not much goes to the floor.

The barrel is kept in place by a fixed stop on one quarter and an adjustable stop on the opposite quarter of the disk.

These stops are so located with regard to the center of oscillation that they rotate the barrel and it gets shaken from every side.

In factories where sugar is shoveled into the barrels this machine is indispensable in saving hand labor, and will more than save its cost in one season.

The power required to run it is inconsiderable, and it can be driven from the centrifugal engine without preceptibly detracting from its regular duty.

Where the barrels can be filled quickly from a chute it will pack 60 bbls. per hour, and it will put 360 to 400 lbs. sugar in a barrel.

Floor space occupied by the machine about 2x4 ft.

"Just the thing—nothing could be better."	H. C. Warmoth.
"The very best shaker in use."	T. A. Shaffer.
"They have given entire satisfaction."	H. C. Minor.
"They pay for themselves two or three times over in one season.	J. M. Burguieres.
"The packer is out of sight."	H. Chapman.
"We are perfectly satisfied with the shaker."	Baton Rouge Sugar Co.
"I have watched with delight and astonishment their work."	S. M. Swenson.

One only Bottom Price, - - - - $75.00.

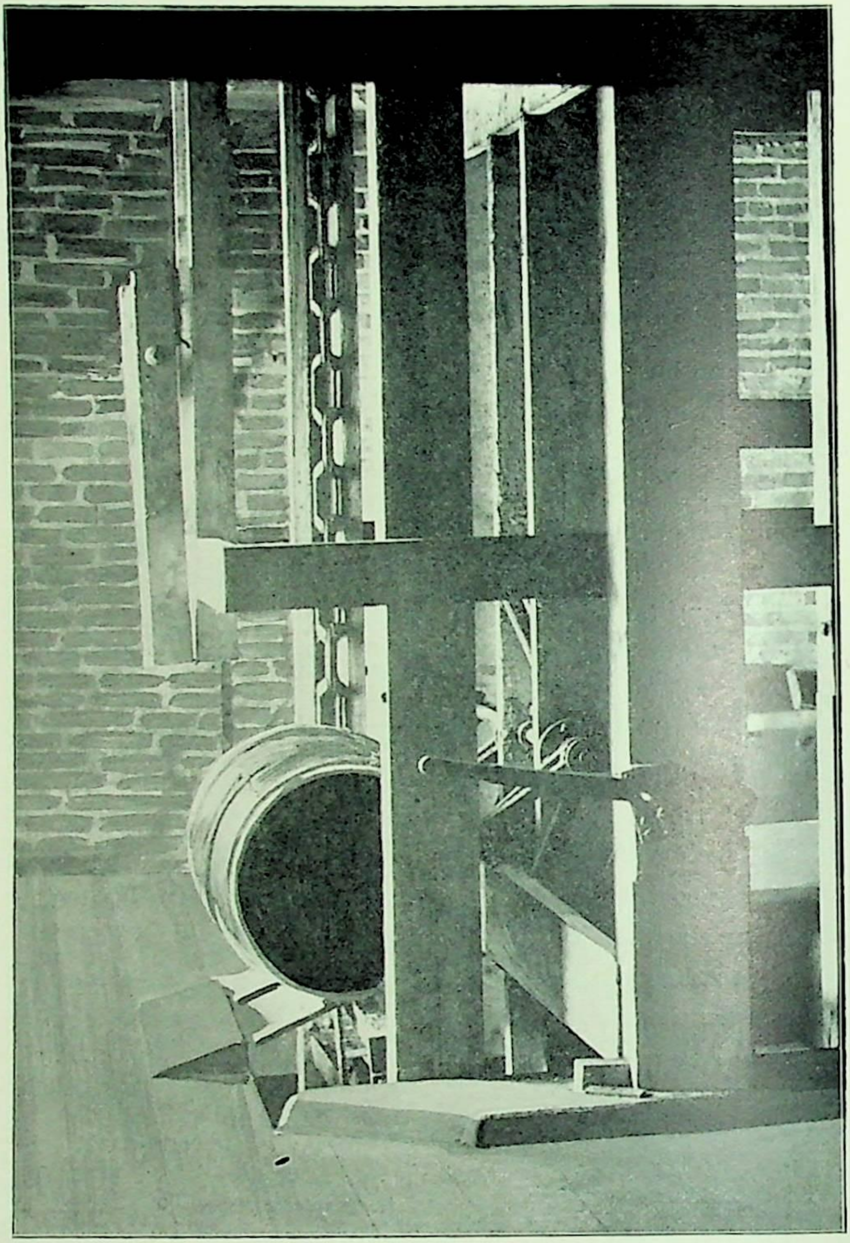
Packing Houses.

There is no industry in which our modern methods are more generally employed than in the packing houses, where Link-Belt appliances handle cattle, hogs, sheep, and their numerous and varied products and by-products in every process of manufacture.

Taking the pork department as an example, the hogs are lifted from the pen by an Automatic Hog Hoist to the killing rail; are taken from the scalding tank with our Automatic Hog Throw-Out, delivered by it to Link-Belt Traveling Bristle Bench, passing through the hog scraper to a Link-Belt Traveling Scraping Bench, and from thence to the rail. Once on the rail, they are conveyed to hanging and chill rooms, and from thence finally to the block in cutting department.

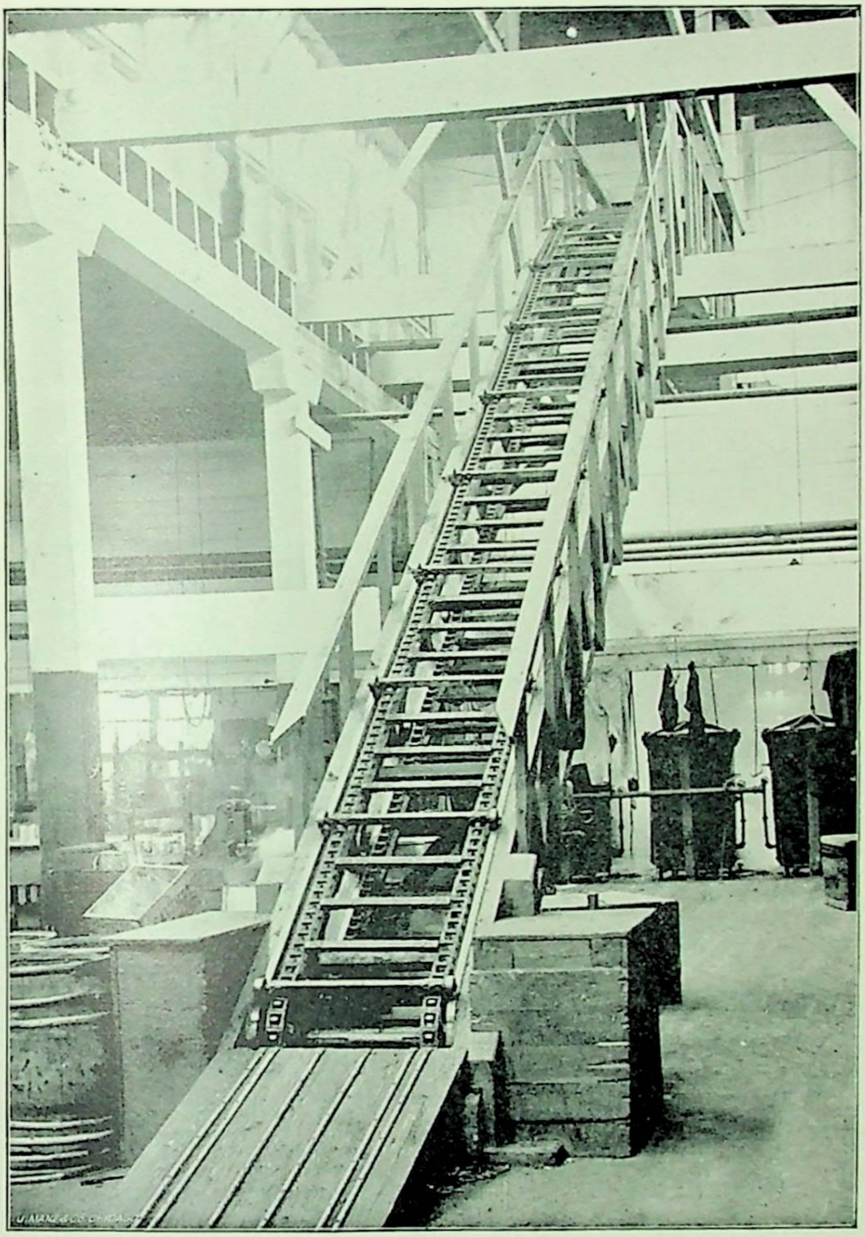
By the above devices, the hog is thus automatically handled from the pens to the cutting room, adding very greatly to the capacity of the plant, and decreasing cost per hog of killing and dressing.

The trimmings, heads, feet, entrails and all the products are carried successively to their respective departments by Link-Belt Elevators and Conveyors. In the fertilizer, canning and glue departments, our appliances are used to great advantage, materially saving time and labor.



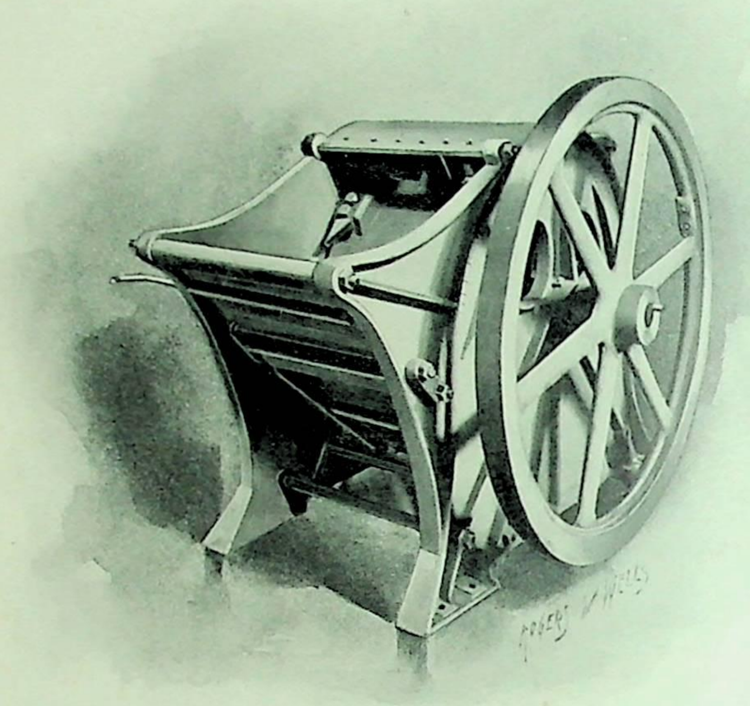
CONTACT DISCHARGE BARREL ELEVATOR,

Handling lard tierces at packing house of Armour & Company, Chicago. This has been in successful daily use since 1890, handling many thousand tierces.



BOXED CAN CONVEYOR.

Erected 1890 for Libby, McNeil & Libby, Union Stock Yards, Chicago. Capacity, 5,000 boxes per day. This conveyor runs on rollers and requires very little power to operate.



LINK-BELT ICE CRUSHER.

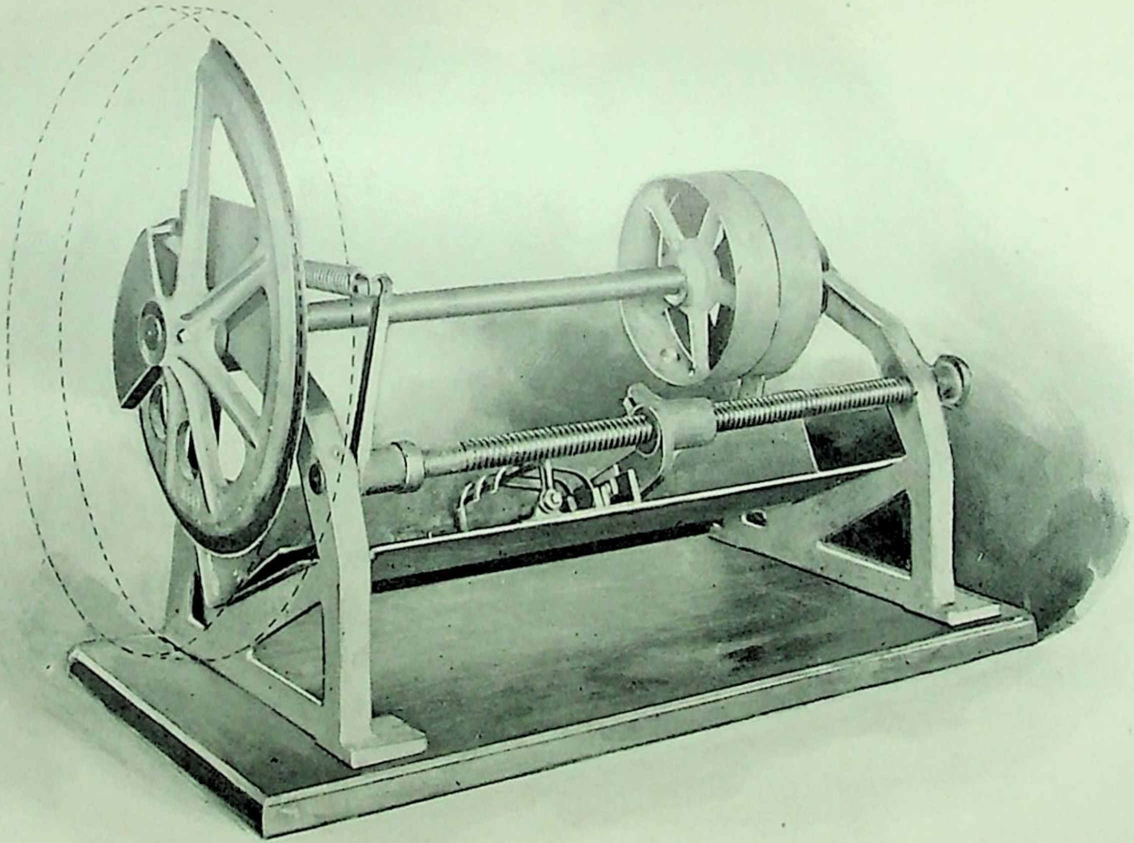
Built for heavy duty, and thoroughly reliable. Crushers are driven by Link-Belting with Clutch Sprocket wheels for throwing in and out of gear.

In connection with the Crusher, we furnish, when desired, Conveyors and Elevators for handling the ice to and from the Crusher.

Used by:

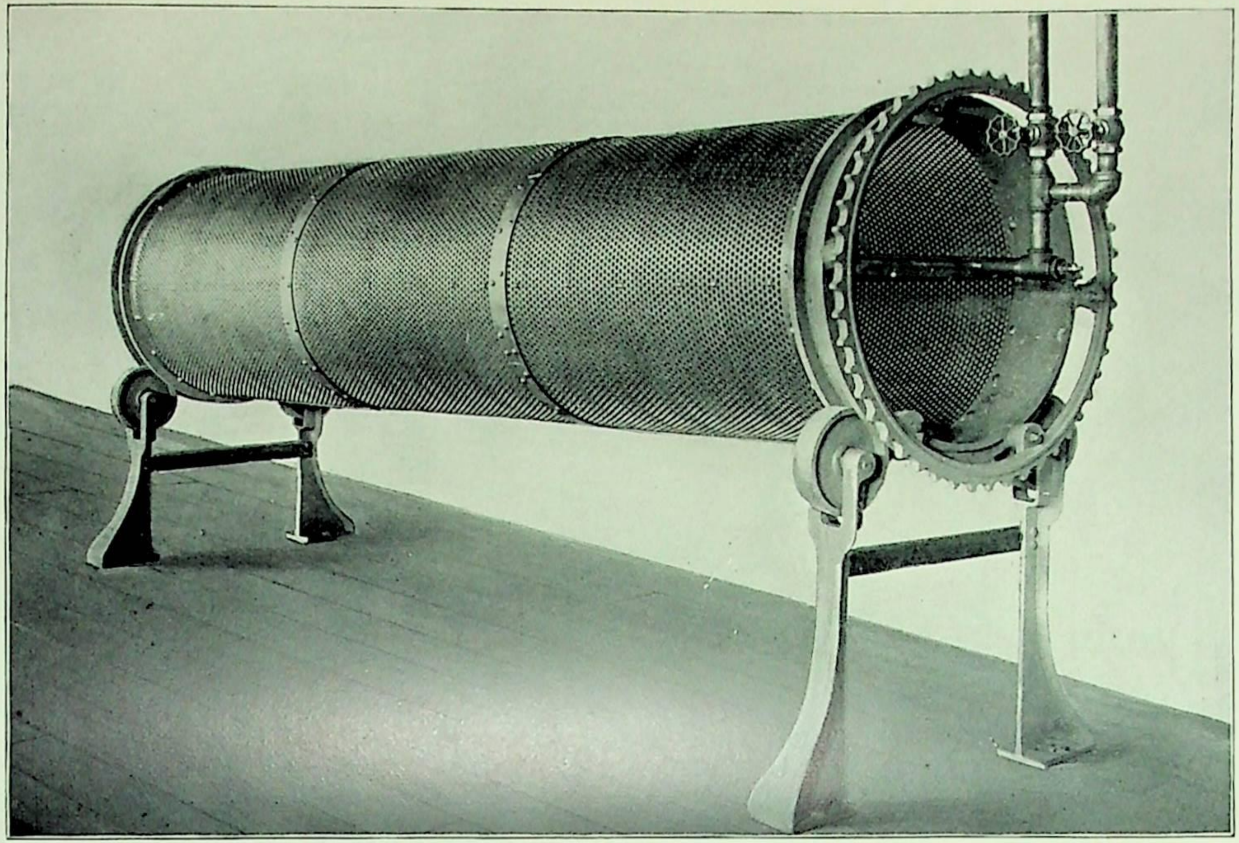
Swift and Company	Chicago
Kingan & Co., Limited	Indianapolis, Ind.
Fairbank Canning Co.	Chicago.
Armour & Company	Chicago and Kansas City, Mo.
The Cudahy Packing Co.	South Omaha, Neb.
Jacob Dold Packing Co.	Kansas City, Mo.
East St. Louis Ice and Cold Storage Co.	East St. Louis, Ill.
Geo. Fowler Son and Co., Limited	Kansas City, Mo.

PRICES ON APPLICATION.



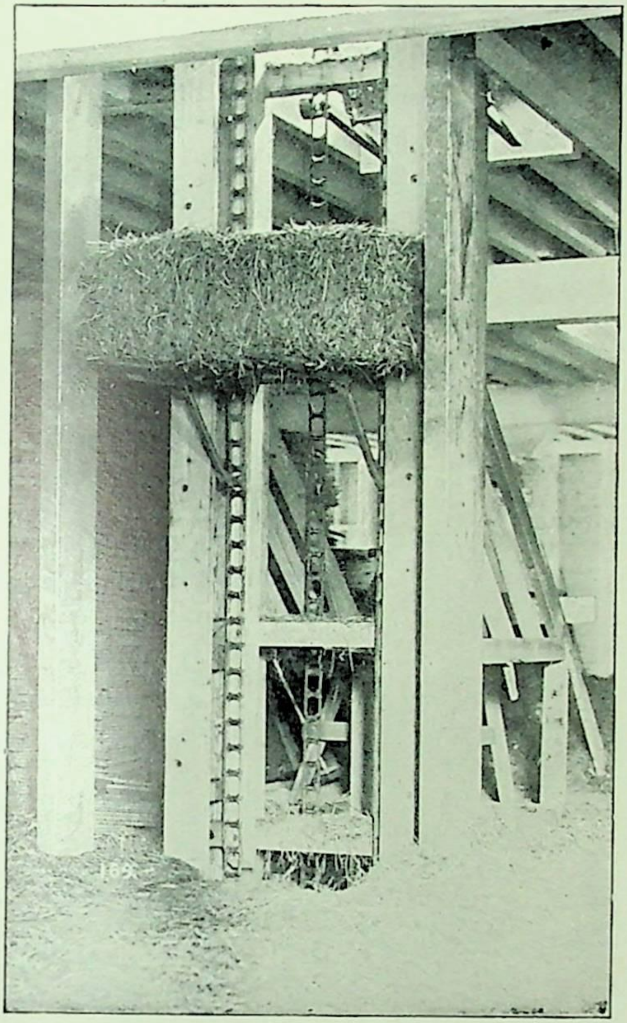
THE LINK-BELT AUTOMATIC DRIED BEEF CHIPPER AND BACON SLICER.

This machine cuts moist beef and bacon with **Absolute Uniformity** as to thickness. The feed mechanism may be set to cut beef 1-64, 1-32 or 3-64 inches thick; and for bacon 1-32, 1-16 or 3-32 inches thick. Price, $150. In ordering please state whether machine is to be used for beef or bacon. (Dotted lines indicate housing for the knife.)



"LINK-BELT" FAT WASHERS.

We manufacture Screens for washing fat, bones and many other products, using both perforated metal and wire cloth. Prices upon application.



BALED HAY ELEVATOR.

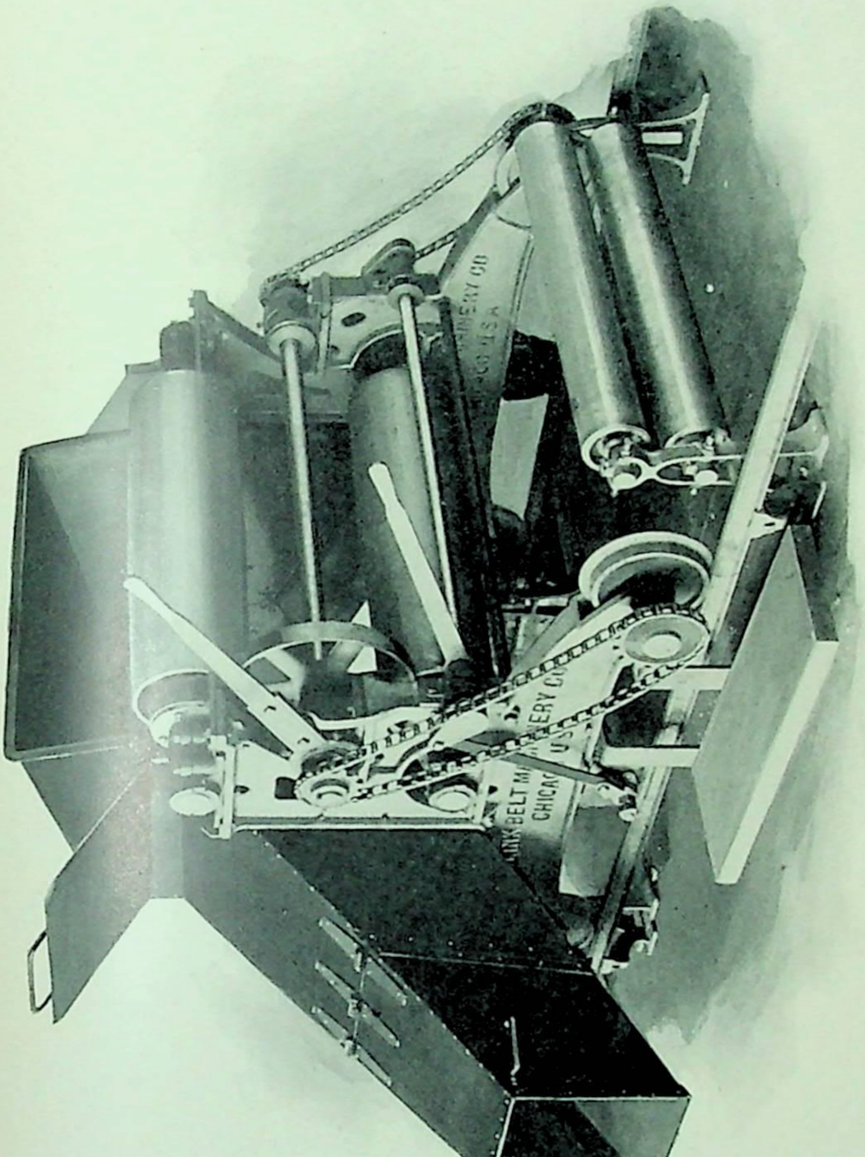
Erected 1887, at warehouse of Union Stock Yards Association, St. Paul, Minn.
Capacity, 1,000 bales per day.

Grain Elevators and Flour Mills.

We manufacture a complete line of Grain Elevator Machinery, and have furnished many of the largest Modern Grain Elevators with entire equipment. Among those recently constructed, are:

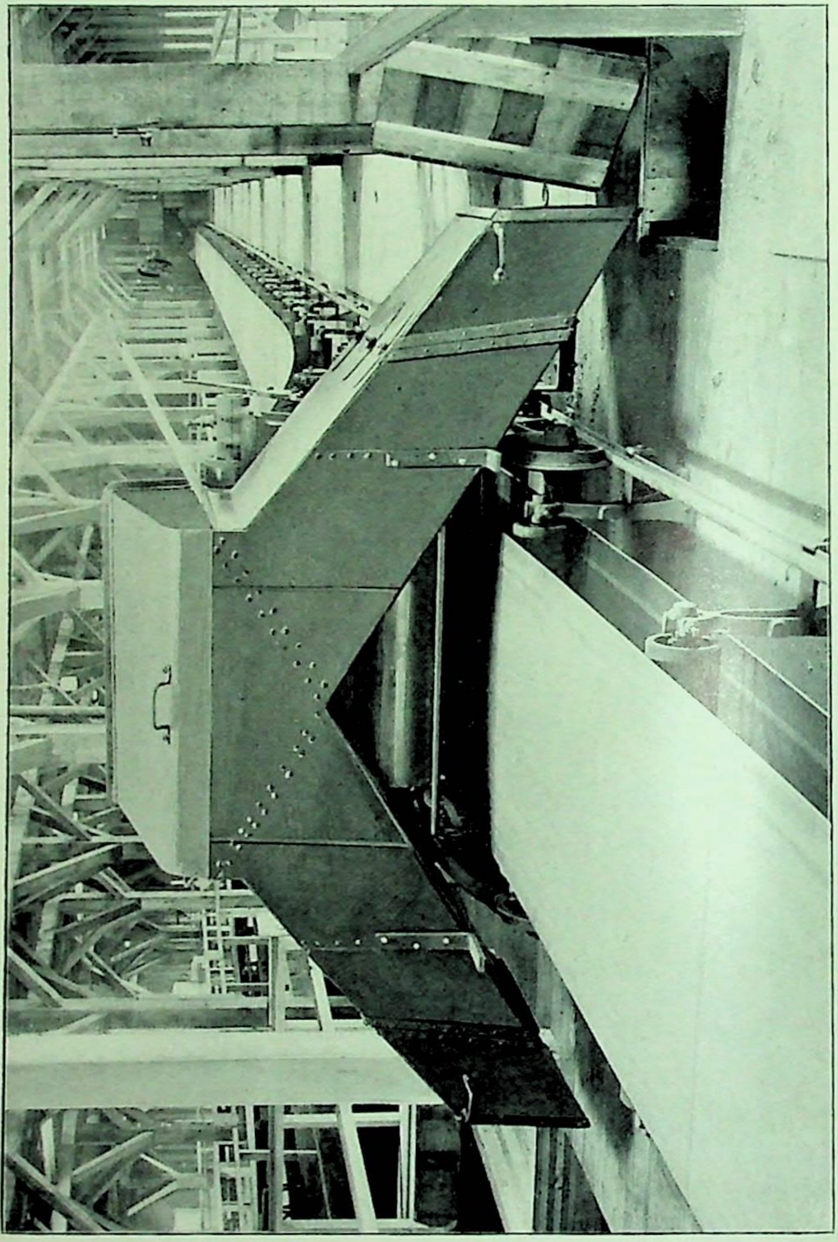
Counselman B & C.................South Chicago, Ills.
Iowa Elevator.....................Peoria, Ills.
Minnesota Elevator.................Chicago.
Texas Star and Flouring Mills.........Galveston, Texas.
Illinois Central Ry. Elevator..........New Orleans, La.
Hoosac "B" Fitchburg R. R.........Boston,

etc., etc.

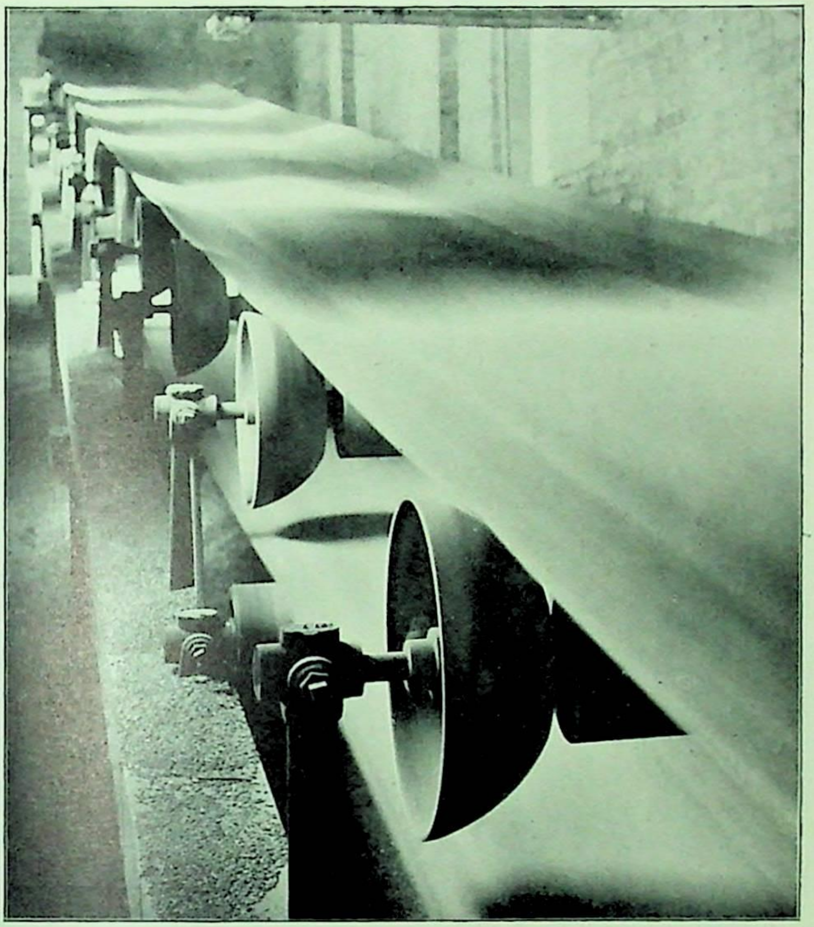


SELF-PROPELLING GRAIN TRIPPER.

We make a large variety of Grain Trippers, drawings and prices of which will be furnished upon application.



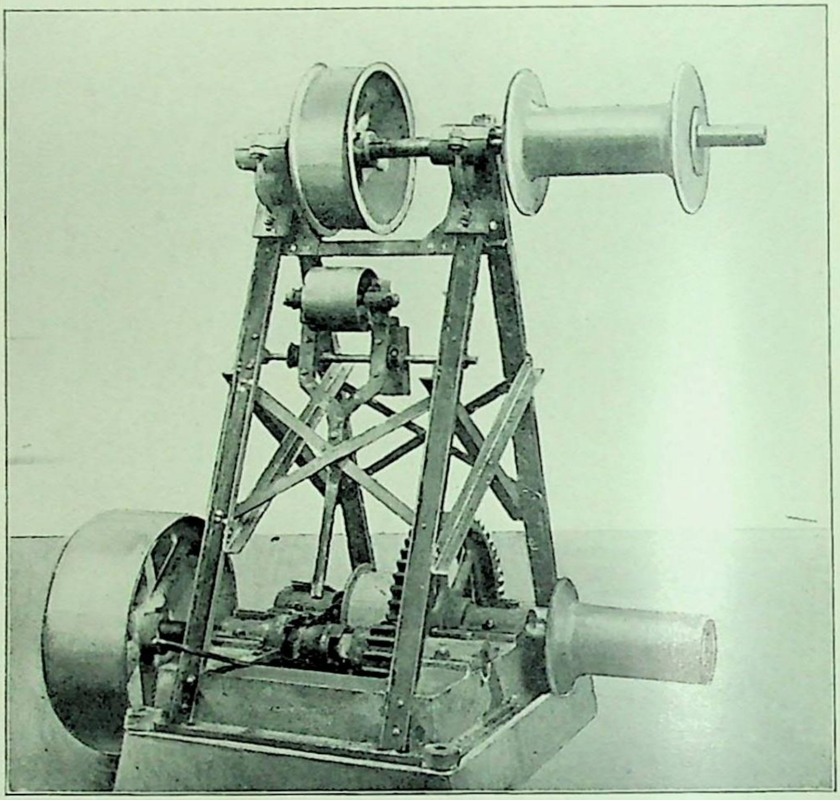
General view of Conveyor floor of Minnesota Elevator Armour & Co.), Chicago, showing one of three 40-inch Belt Conveyors, and Self-Propelling Tripper, front view of which is shown on page 113. The Steel Rolls which support the belt are carried on combination high and low Stands, with chairs for the rails on which the Tripper travels.



INCLINED CONCENTRATING BELT CONVEYOR

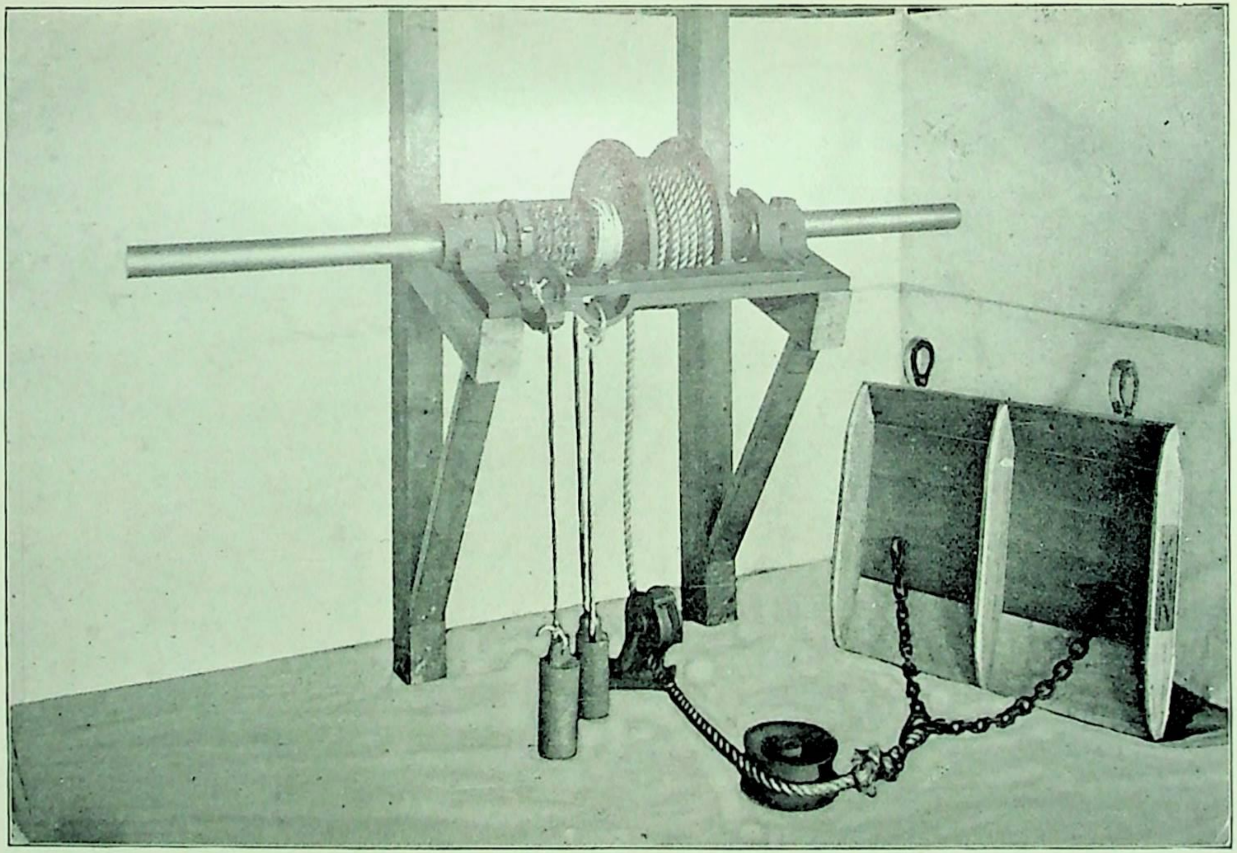
Running on self-oiling Disk Rolls. View shows Belt carrying grain while running at a speed of 800 feet per minute. Notice absence of vibration in the stands, showing perfect balance of rolls.

Capacity, 20,000 bushels per hour.



SAFETY CAR PULLER.

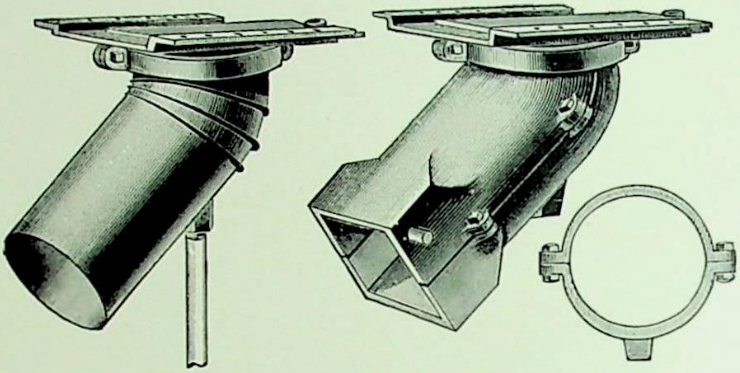
Steel frame on cast-iron bed. Extra heavy, with capacity for 10 to 15 loaded cars.



THE CLARK POWER GRAIN SHOVEL.

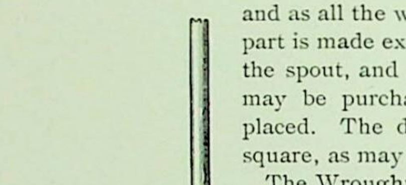
Standard and extra heavy patterns of approved design. Prices furnished on application.

Turn Heads.



We make and carry in stock both the Cast and Wrought Iron Spouts. The Cast Iron Spout is made in two parts, and as all the wear is upon the bottom, the lower or bottom part is made extra thick, which greatly prolongs the life of the spout, and when finally worn through, a new section may be purchased at small cost and the worn part replaced. The discharge end is made either round or square, as may be preferred.

The Wrought Iron Spout is of ordinary shape and construction. We also have a large assortment of patterns for Crane Spouts, Shipping, and Bin Bottoms.



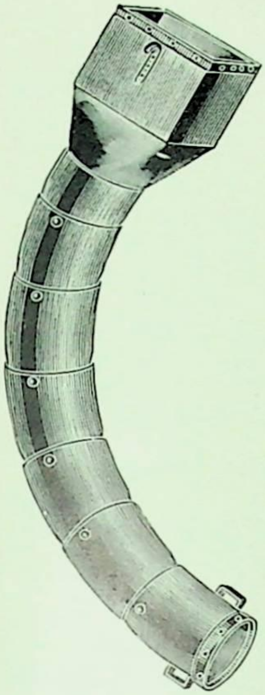
Price List

Wrought Iron or Cast Iron Turn Head Including Gate

6-inch	$6.00
8 "	8.00
10 "	10.00
12 "	12.00
14 "	14.00
16 "	16.00

Indicator Tables

	Price
Stand	$6.00
Rod, per foot	.12



Flexible Spouts for Loading Cars.

Will Turn Any Angle.

Price List.

Diameter.	Length Over All.	Price.
6 inches.	5 feet.	$10 00
8 "	6 "	12 00
10 "	6 "	14 00

Made of heavy sheet steel.

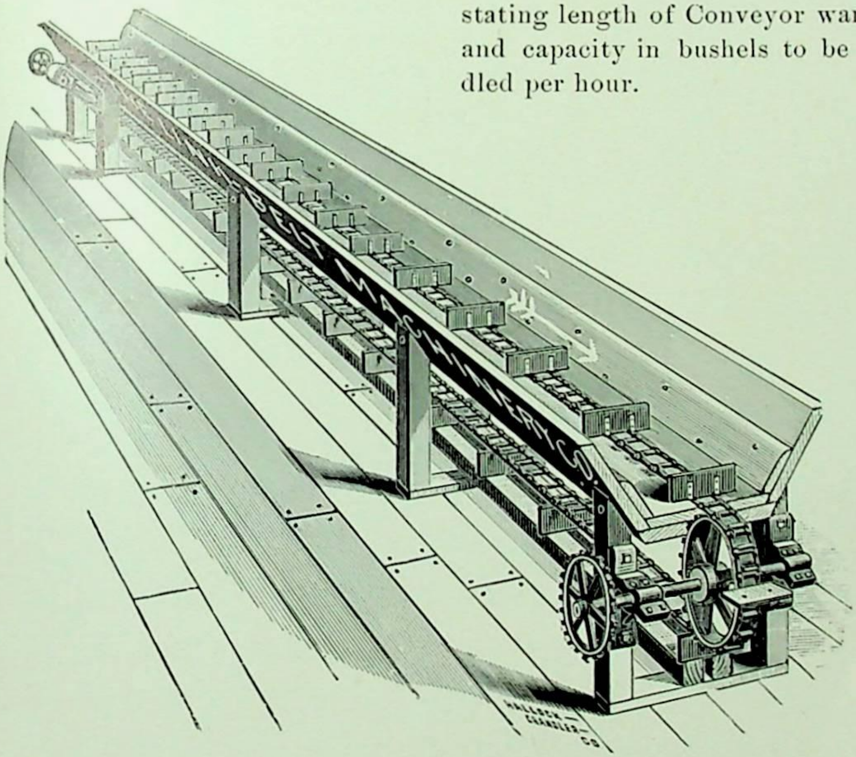
Special sizes made to order.

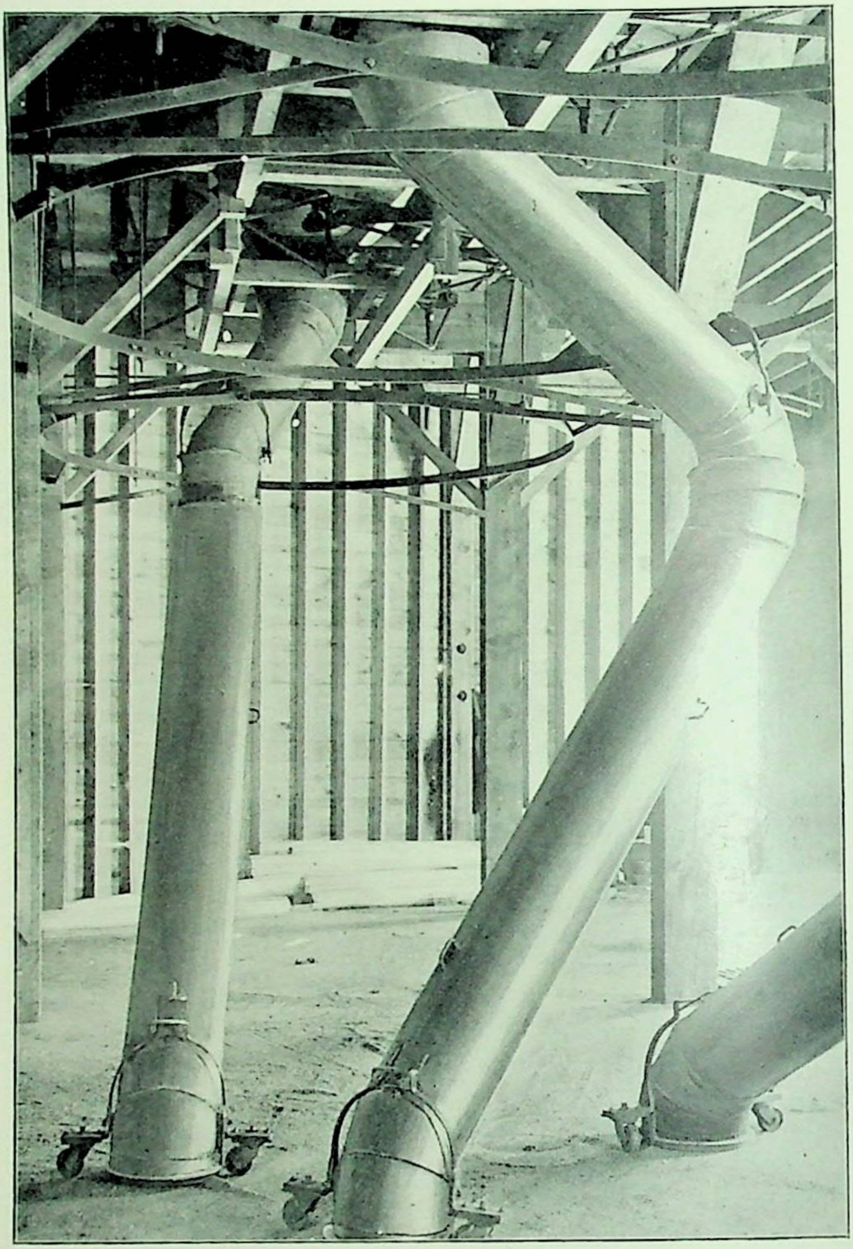
In ordering give size of wooden spout to which you wish the spout fitted.

The Ear Corn Conveyor

may be arranged to take the Corn from Dump and distribute it at various points in crib, or it may be placed below the crib to empty same for shipment, or convey to Sheller.

Prices quoted upon application stating length of Conveyor wanted, and capacity in bushels to be handled per hour.

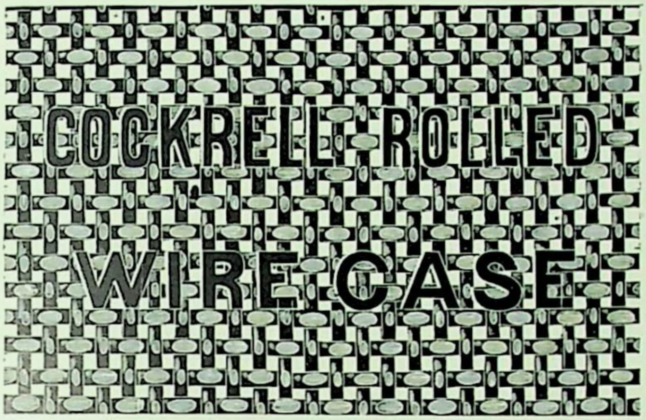

LINK-BELT MACHINERY CO.



MAYO'S PATENT UNIVERSAL DISTRIBUTING SPOUT.

Prices on above, and on Telescoping Trolley Spouts, furnished upon application.

Cockrell's Patent Scouring Case



Is the best casing made. With 9,216 impinging edges in every square foot of surface, the dirt must be thoroughly rubbed off of the wheat, and with 9,216 openings for ventilation in every square foot of surface, every particle of dirt must be carried away by the draught as soon as scoured off. Presenting more than thirty times the number of scouring edges and ventilating openings of other cases, it must necessarily improve the color of the flour, especially the baker's.

The Cockrell scouring surface does not wear smooth and lose its efficiency in a few weeks, as other cases do, but the very nature of its construction is such that it retains its scouring qualities as long as the material lasts.

The Cockrell Case rubs the berry hard, *but does not break it or injure the bran coating*. In fact, it will *pay for itself* many times over in one year in the improved quality of the work done, while the other cases could not pay for themselves once in many years.

Over 4,200 Cases have been sold to date, all of which are giving the utmost satisfaction. Should the Case not prove what we claim it to be, we will cheerfully refund the price paid for it.

We make Cases to fit any machine, but to insure a perfect fit we need the circumference of your old case, and its height or length. Measure the ring or flange around which the case is fitted, so that we can determine the inside circumference of the case, or give us the outside circumference and the thickness, and we will make allowances accordingly.

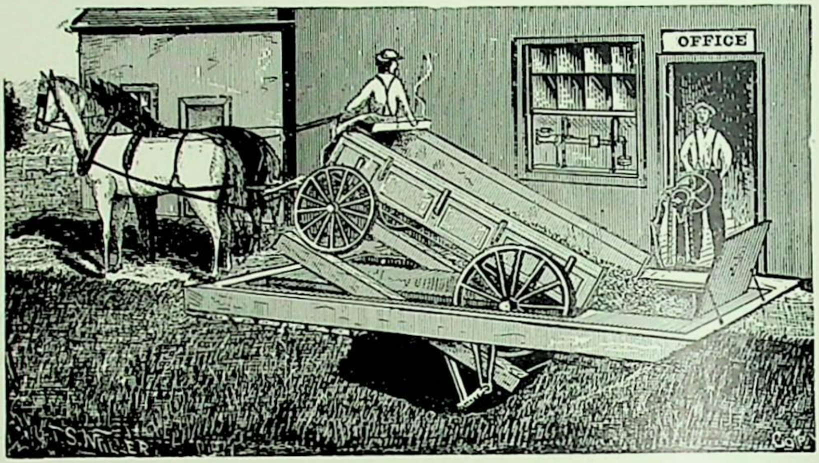
REDUCED PRICES.	PER SQUARE FOOT.
Cylindrical Cases	$1 25
Conical Cases	1 50

Figure this out and see at what small cost we can furnish you a new case, or send above dimensions and we will give you a price complete.

Patent Controllable Wagon Dumps

For Use With or Without Scales.

S. & L. Dumps for Ordinary Work. Evans Dumps for Heavy Work

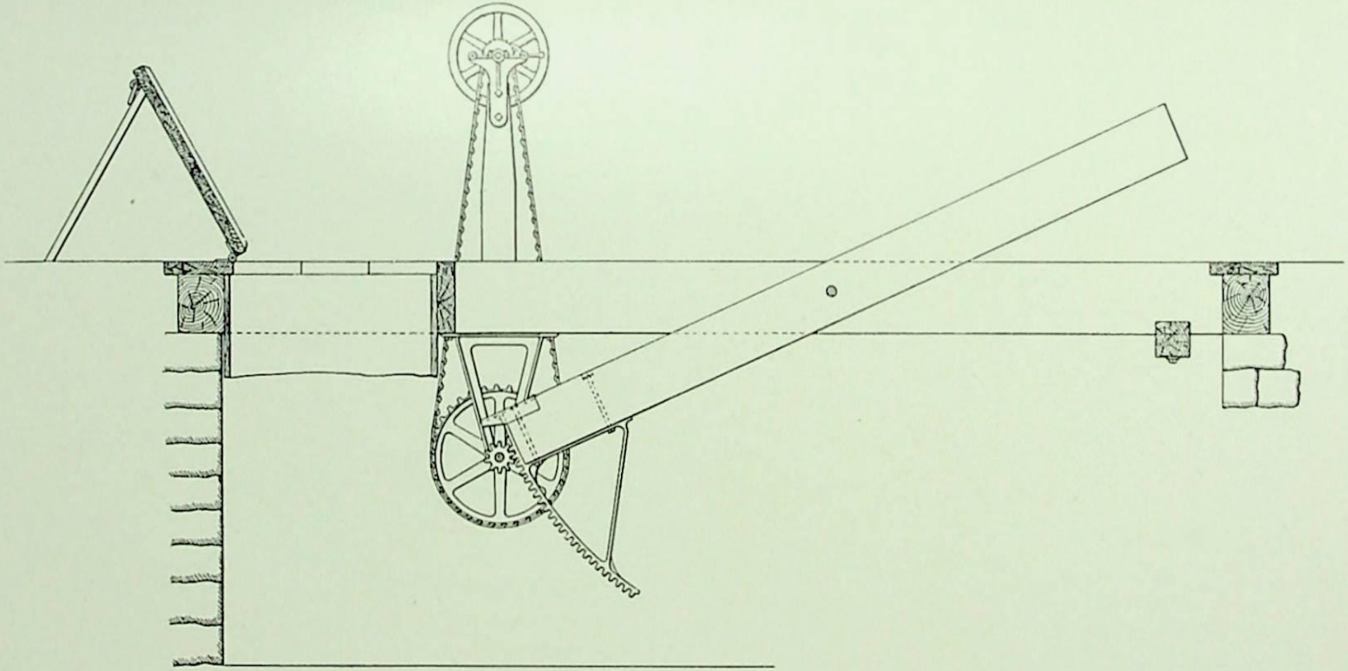


The S. & L. Dump illustrated above is well known as the best form heretofore made for all ordinary work, and very little description is necessary. To the side of the ordinary dump rails are attached spur segments, which are engaged with spur pinions fixed upon a shaft underneath, and operated by means of a Link-Belt and pair of sprocket wheels in connection with a hand wheel, which, turned in one direction, tilts the rails to unload, and the reverse motion brings the rails to original position.

The motion is so smooth and free from concussion or jar, that no injury is done to wagon, dump or scale; it is unnecessary for the driver to leave his seat on the wagon, and the *scattering of the grain is entirely avoided.*

The controllable feature renders practicable the combination of dump and scale on one platform or foundation, so that the wagon may be driven upon the scale and weighed, dumped and reweighed, thus avoiding the annoyance or delay of the old system, which necessitates first driving to the scale, then to the dump, and returning to be weighed the second time.

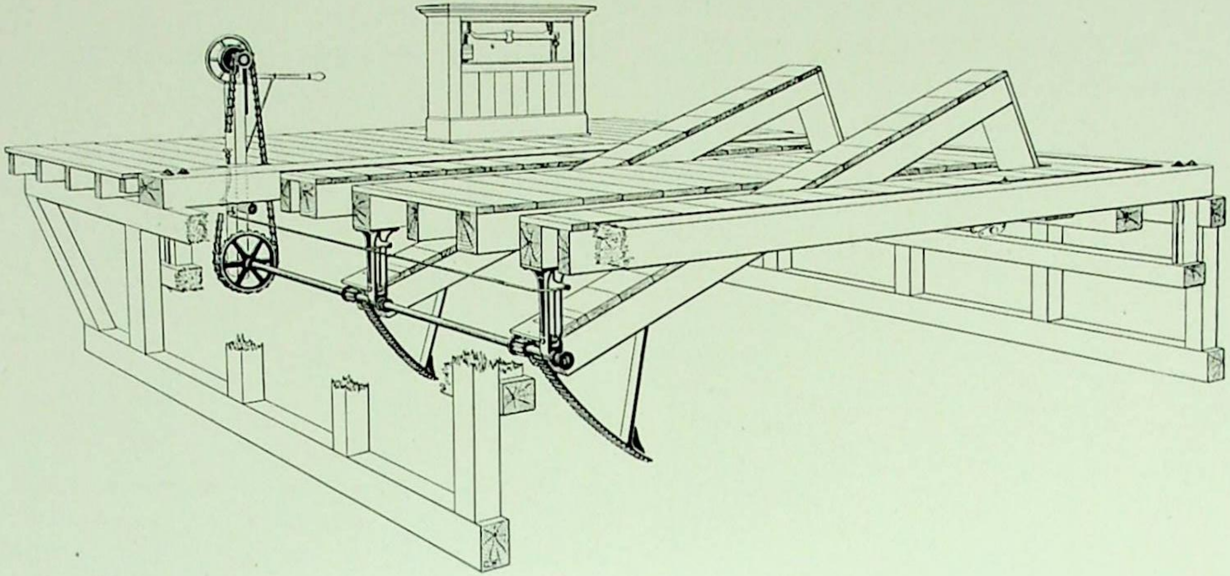
We furnish S. & L. Dump Irons for $35, with working drawings for setting up, and bill of material showing lumber and hardware necessary.



Showing Method of Operating S. & L. Dump in Platform.

Width of excavation necessary is 6 ft. ½ in.

Ends of gear segments at lowest point extend 6 ft. below level of platform.



Evans Wagon Dump.

PATENTED APRIL 12TH, 1898.

Description on opposite page.

Evans Wagon Dump.

Patented April 12, 1898.

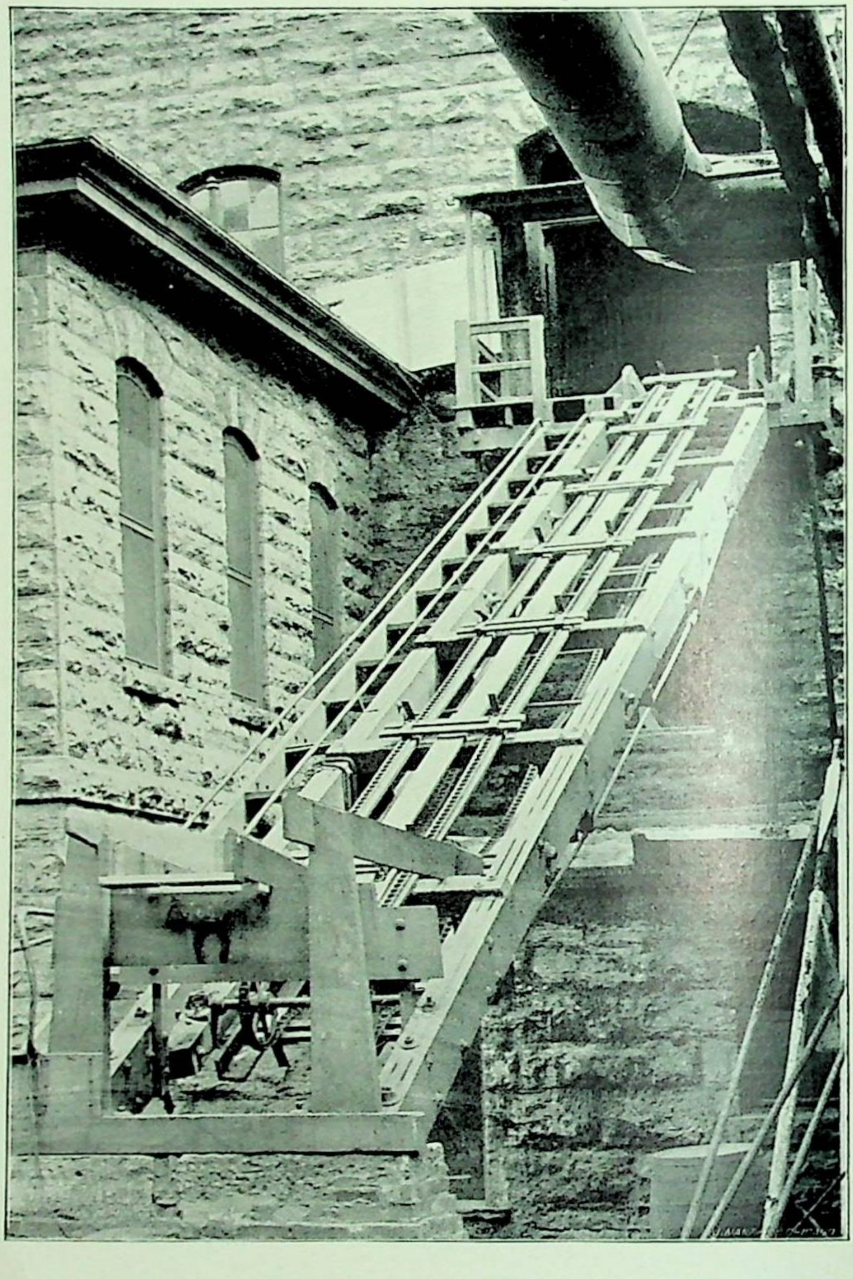
The Evans Dump, an improvement on the S. & L., was designed particularly for **heavy duty,** as for instance in the elevator trade of the Northwest, where heavy loads are handled, and perfect **safety** and **control** are absolutely necessary. Formerly the S. & L. Dumps were used in that trade, as being the best form on the market at the time, but it was found necessary to provide them with expensive and cumbersome timber construction, arranged to furnish strong but movable supports under the ends of the Dump rails, to prevent accidents when driving the load on. From the accompanying outline illustration, it will be seen that the pivoted iron supports for the ends of the rails, shown in the foreground, are operated by a crossrod which is connected with a weighted bell crank lever, so arranged that in the normal position the supports form a **self-locking device** under the ends of the rails. This is thrown out of engagement at will by the pressure of the operator's foot on the treadle which is shown extended up through the floor. Besides the hand wheel for operating the lowering mechanism, there is a strong band brake, under the control of a lever of good length, this latter being notched for the catch rod, so that the operator can lower a heavy load part way, and lock it easily in position until it is desired to lower further for the discharge of the balance of the load, thus facilitating the process of unloading, and reducing the danger of scattering or wasting the grain. The guards on bottom of front ends of dump rails prevent horses stepping back into the holes left by the rails, or being caught by the descending ends when the wagon is raised to horizontol position. The Evans Dump puts into permanent and convenient iron form, the perishable and clumsy woodwork heretofore used, and the price of the Evans Dump Irons includes all the odds and ends of hardware, so that the customer does not have to hunt up such parts and pay "hardware" prices for them. The result is that while the first cost appears from the list prices to be greater, the **real cost** of the Dump **erected in position** is **less,** because to the price of other Dump Irons must be added the hardware, the greater amount of timber construction, and the greater labor necessary to complete the outfit.

Summing up, we enumerate the advantages, as follows:

1. **PERFECT SAFETY AND SECURITY,** on account of Self-Locking Device, Friction Brake, strong iron construction, and guards on ends of dump rails.
2. **ECONOMY IN FIRST COST,** because so little labor and extra material required to erect.
3. **ECONOMY OF MAINTENANCE AND OPERATION,** because of strong durable construction, no damaged horses to pay for, no breakages or delays, no damage to Scales.
4. **SAVING OF TIME,** for elevator man and farmer.
5. **PERFECT CONTROL,** with ease and certainty.
6. **SPACE** under Dump and Scales **OPEN,** accessible for cleaning out any grain that may leak through platform, and avoiding obstructions to scale levers.

The Evans Dumps were severely and thoroughly tested in practical operation through last season's work of such experienced elevator builders as J. L. Record, and the Barnett & Record Co., of Minneapolis, who speak of the Dumps in highest praise, and have adopted them for their future work.

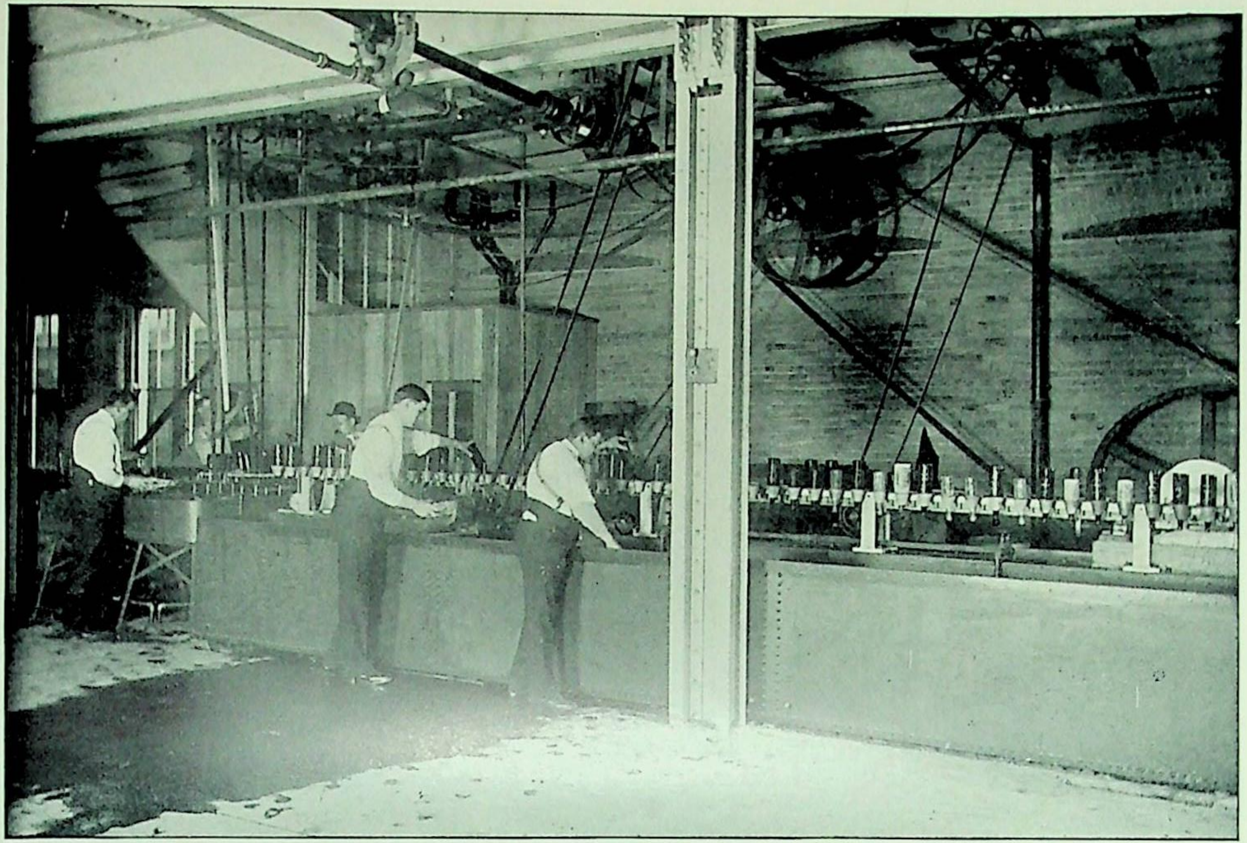
Evans Dump Irons complete with "hardware," $45.00, including working drawings and memorandum of lumber necessary.



EMPTY BARREL ELEVATOR
At Washburn "A" Mill, Minneapolis, Minn. Erected, 1887.

Breweries, Malthouses and Distilleries.

Link-Belt devices are in operation handling wet and dry grains; elevating, conveying and washing beer kegs; soaking and cleaning beer bottles when empty, and carrying from corking machines to soaking vats to be steamed when filled; also handling ice for storage and cooling purposes, coal and ashes about boiler rooms, etc.

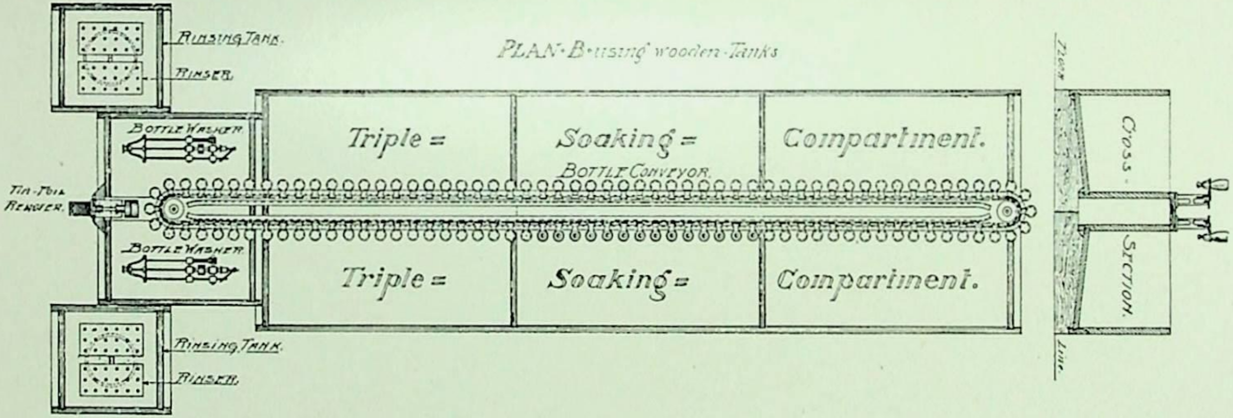


SCHREIBER'S BOTTLE SOAKING AND CONVEYING MACHINE

In operation at Bottling Department, C. Moerlein Brewing Co., Cincinnati, O.; also used by the Schuster Brewing Co., Rochester, N. Y.; Chattanooga Brewing Co., Chattanooga, Tenn.; Brenner Brewing Co., Covington, Ky., etc.

Schrieber's Bottle Soaking and Conveying Machine.

(PATENT PENDING.)



As will be seen in the line engraving above, the device consists of two rows of Soaking Tanks, constructed either of iron or wood, over which is located a lateral Conveyor which operates along the center between the two rows of tanks, carrying the bottles to the end where the Bottle Washing Machines are located.

There may be as many tanks in each row as desired to provide for the quantity and the several sizes and kinds of bottles, which, when sufficiently soaked, are removed and placed in the cups of the lateral Conveyor, neck down, to drain while being carried to the washing machines. Any tin-foil that may adhere to the bottles is removed by "Tin-foil Removers" placed on either side of the Conveyor, after which they are replaced in the cups. Any bottles that may pass the washing machines will simply be carried around the second time.

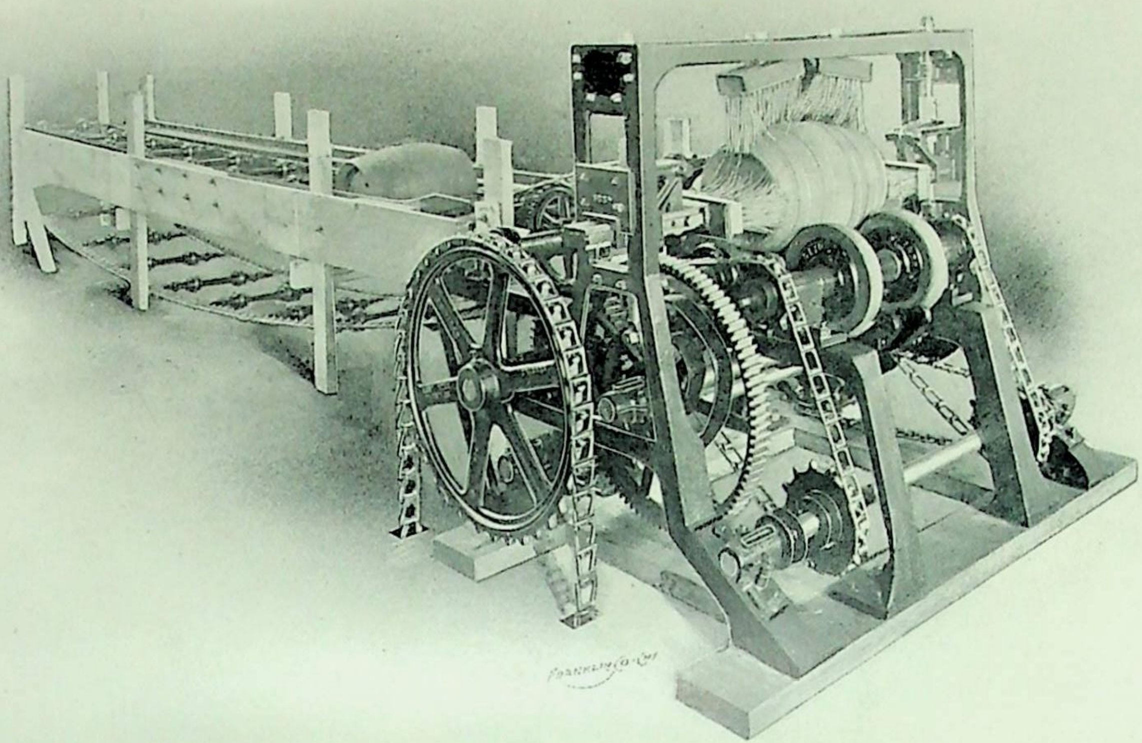
Capacity of machine from 100 to 200 bottles per minute.

PRICES:

Machinery for 20 ft. Conveyor, including head, foot and counter shafts with bearings, wheels and gears, but no driving pulleys; also chain fitted with bottle holders, guides and stands, $225.00.

For extra length, up to 50 ft., add $5.00 per foot of extra distance between head and foot shafts.

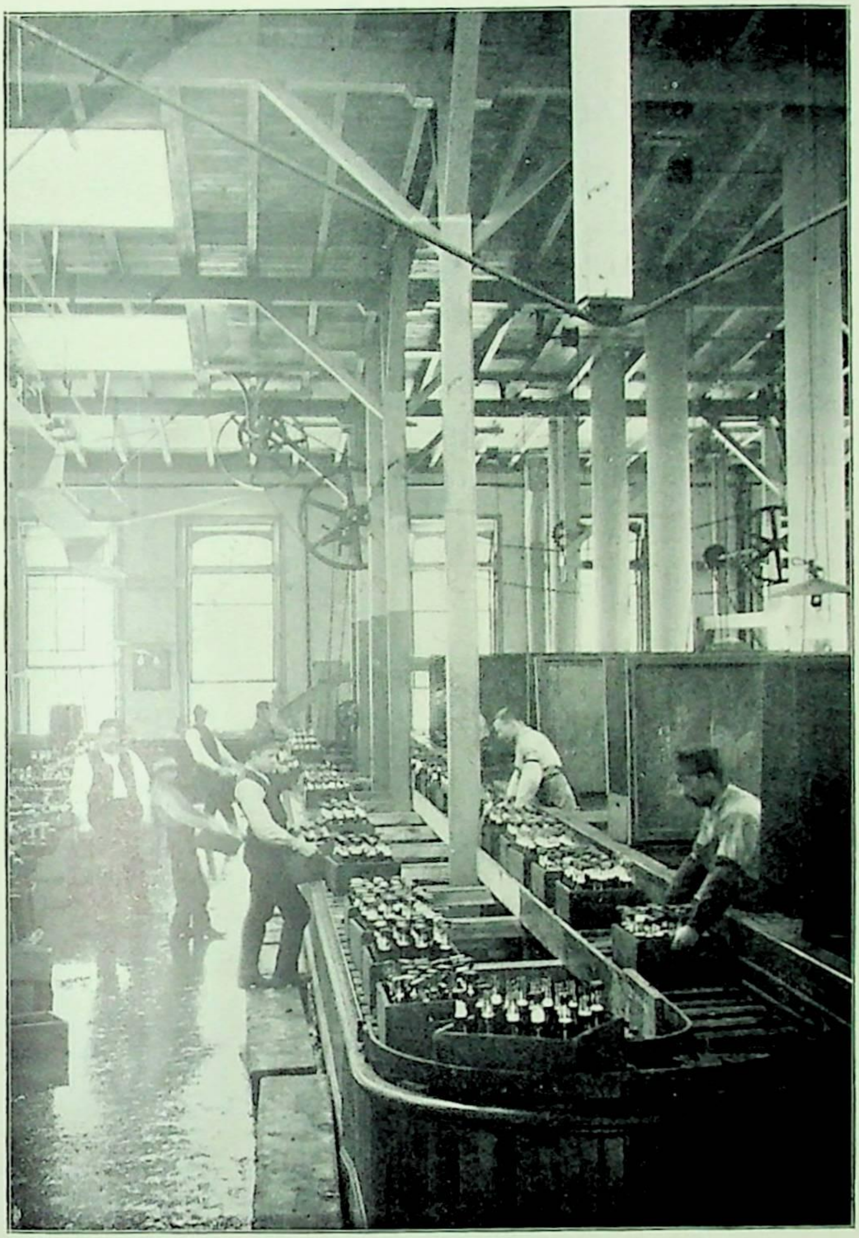
For Carriers over 50-foot centers, write for special prices.



LINK-BELT KEG AND BARREL WASHING MACHINE.

Built in two sizes; for eighths and fourths; and halves and whole barrels. Capacity, 15 kegs or barrels per minute. Prices for machine only, or machine complete set in iron tank, furnished on application.

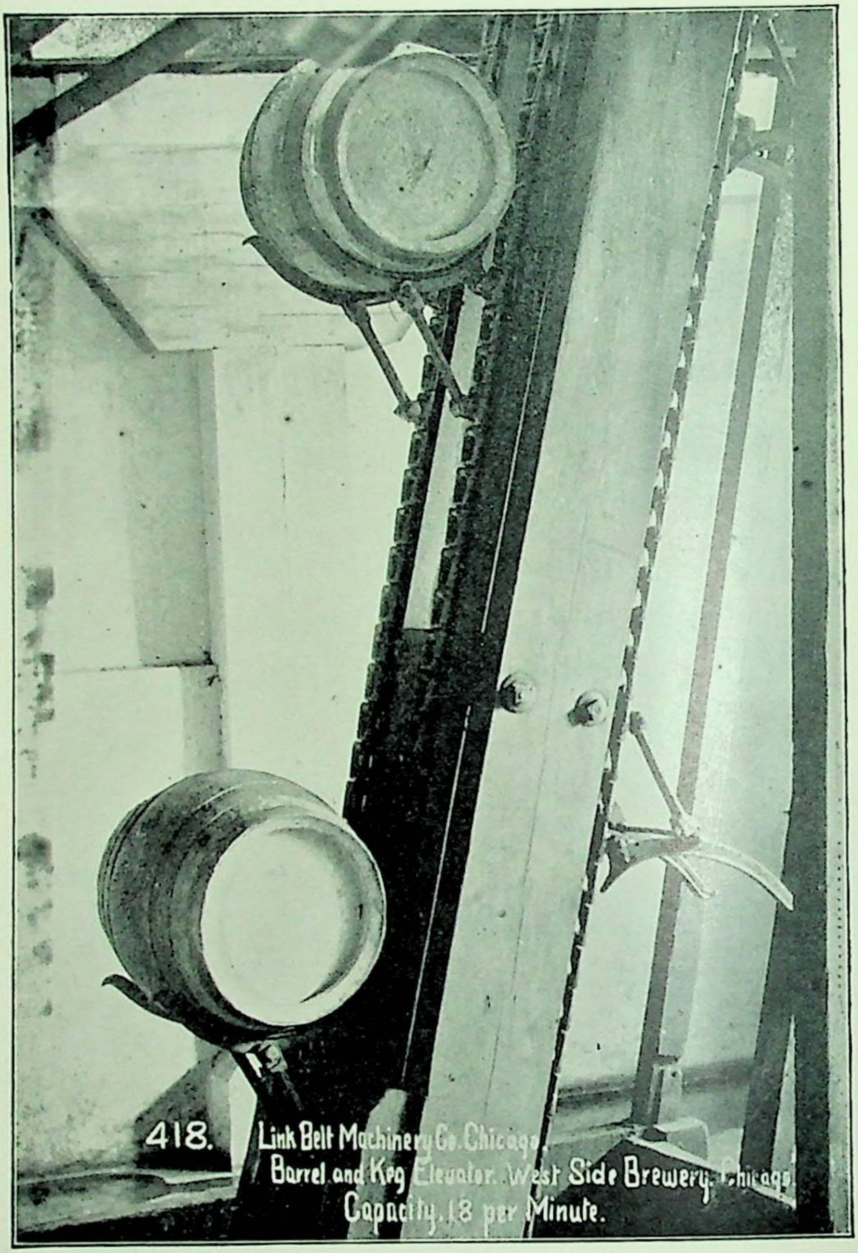
"The two Barrel Washing Machines which we purchased from you about a year ago are giving good satisfaction. They are a good economizer of labor and automatic in their working. To large breweries they are certainly of great advantage."—*Extract from letter dated April 24, 1895, from Wm. J. Lemp Brewing Co., St. Louis, Mo.*



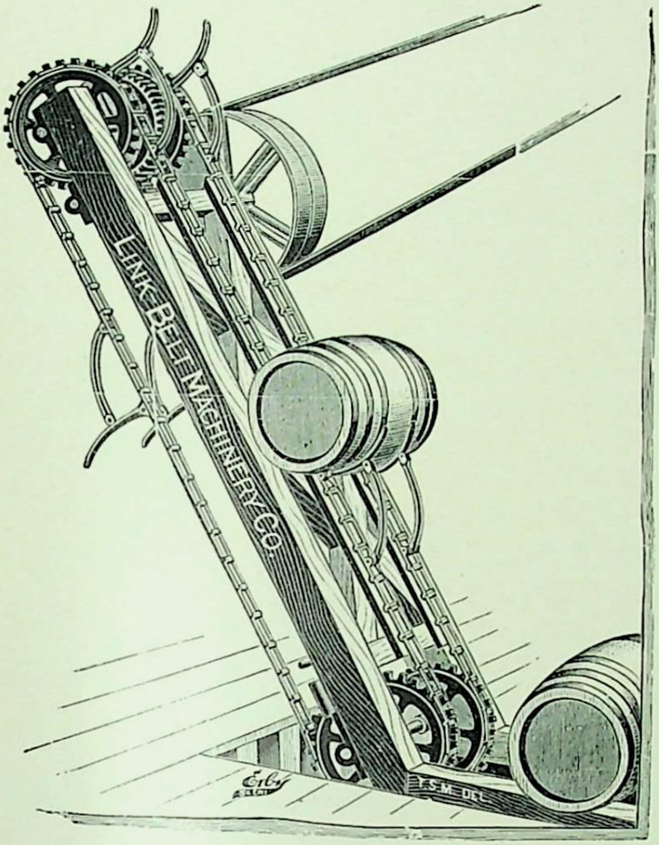
LINK-BELT TRANSFER

(PATENTED)

As furnished the Bottling Department of Pabst Brewing Co., Milwaukee, Wis., for carrying bottled beer in cases from corking machines to soaking vats. Capacity to suit requirements.



418. Link Belt Machinery Co. Chicago.
Barrel and Keg Elevator. West Side Brewery, Chicago.
Capacity, 18 per Minute.


LINK BELT MACHINERY CO.
F.S.M. DEL.

Standard Barrel, Keg and Sack Elevator.

THESE PRICES ARE FOR MACHINERY ONLY

And do not include any driving pulleys or belt, but include balance of driving machinery shown in cut. The woodwork is simple and can be constructed economically on the grounds.

Styles A and B have 16-in. wheels and small arms, A being for light or small sacks, B for brewery work, kegs, etc., up to barrels. Styles C and D have 24-in wheels and large arms, C being for empty or light barrels, D for general barrel elevator work. For large barrels we make special elevators.

Estimates submitted on receipt of particulars.

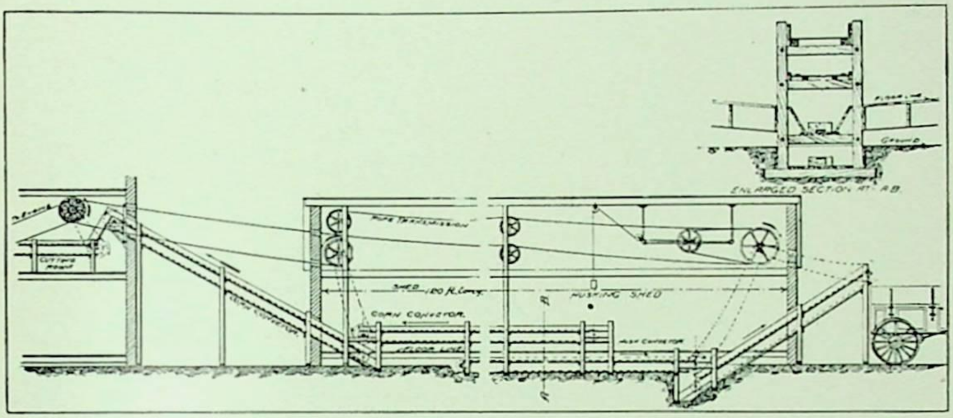
Style.	Length from C to C in ft.	3 Arms.	4 Arms.	5 Arms.	6 Arms.	Ex. Arms per set.
A	10	63 00	66 00	69 00	72 00	$3 00
	15	68 60	71 60	74 60	77 60	
	20	74 20	77 20	80 20	83 20	
	25	79 80	82 80	85 80	88 80	
	30	85 40	88 40	91 40	94 40	
B	10	71 50	74 50	77 50	80 50	$3 00
	15	80 50	83 50	86 50	89 50	
	20	89 50	92 50	95 50	98 50	
	25	98 50	101 50	104 50	107 50	
	30	107 50	110 50	113 50	116 50	
C	10	73 50	77 25	81 00	84 75	$3 75
	15	79 10	82 85	86 60	90 35	
	20	84 70	88 45	92 20	95 95	
	25	90 30	94 05	97 80	101 55	
	30	95 90	99 65	103 40	107 15	
D	10	83 50	87 25	91 00	94 75	$3 75
	15	92 50	96 25	100 00	103 75	
	20	101 50	105 25	109 00	112 75	
	25	110 50	114 25	118 00	121 75	
	30	119 50	123 25	127 00	130 75	

Fruit, Vegetable and Fish Canneries.

The transportation of Corn cobs, Cans, Boxes, Fish, Fruits, Green Vegetables, Corn husks, Tomato slops, Meats, etc., is best accomplished by Link-Belt Elevators and Conveyors, of which we have designed and installed a large number.

Among the Canning Establishments supplied, are :

Hoopeston Canning Co.	Hoopeston, Ill.
Illinois Canning Co.	Hoopeston, Ill.
Iroquois Canning Co.	Onarga, Ill.
Rossville Canning Co.	Rossville, Ill.
Waverly Canning Co.	Waverly, Iowa.
Atlantic Canning Co.	Atlantic, Iowa.
Gibson Canning Co.	Gibson, Ill.
Sycamore Preserve Works	Sycamore, Ill.
Bloomingdale Canning Co.	Bloomingdale, Ill.
Cayuga Canning Co.	Cayuga, Ind.
C. J. Off & Co.	Peoria, Ill.
Salem Canning Co.	Salem, Oregon.
Paxton Canning Co.	Paxton, Ill.
A. Bird	Exeter, Neb.
Sears & Nichols	Chillicothe, Ohio.
Lincoln Canning Co.	Lincoln, Ill.
Flat Rock Canning Co.	Flat Rock, Ind.
Fairbank Canning Co.	U. S. Yards, Chicago, Ill.

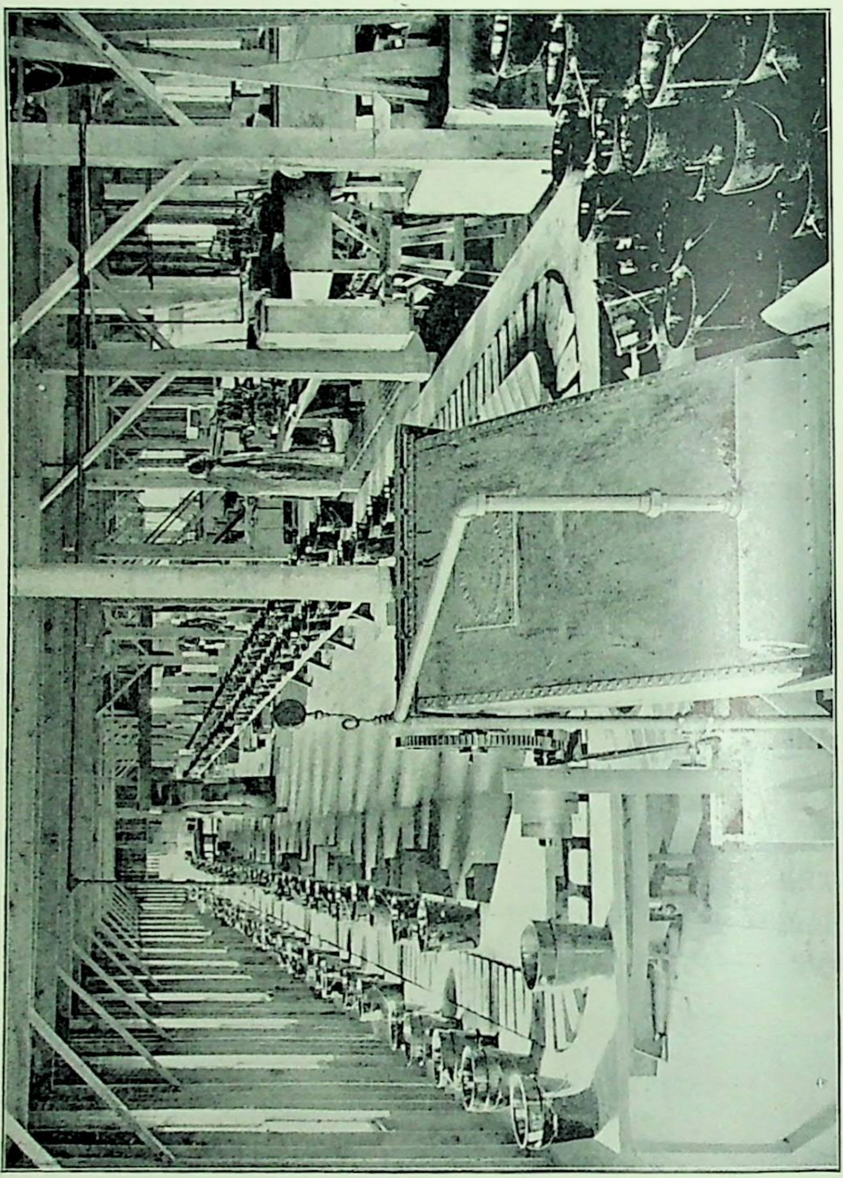


This sketch shows a system of Conveyors admirably adapted for handling corn and husks, and of which we have furnished many similar outfits for canning establishments.

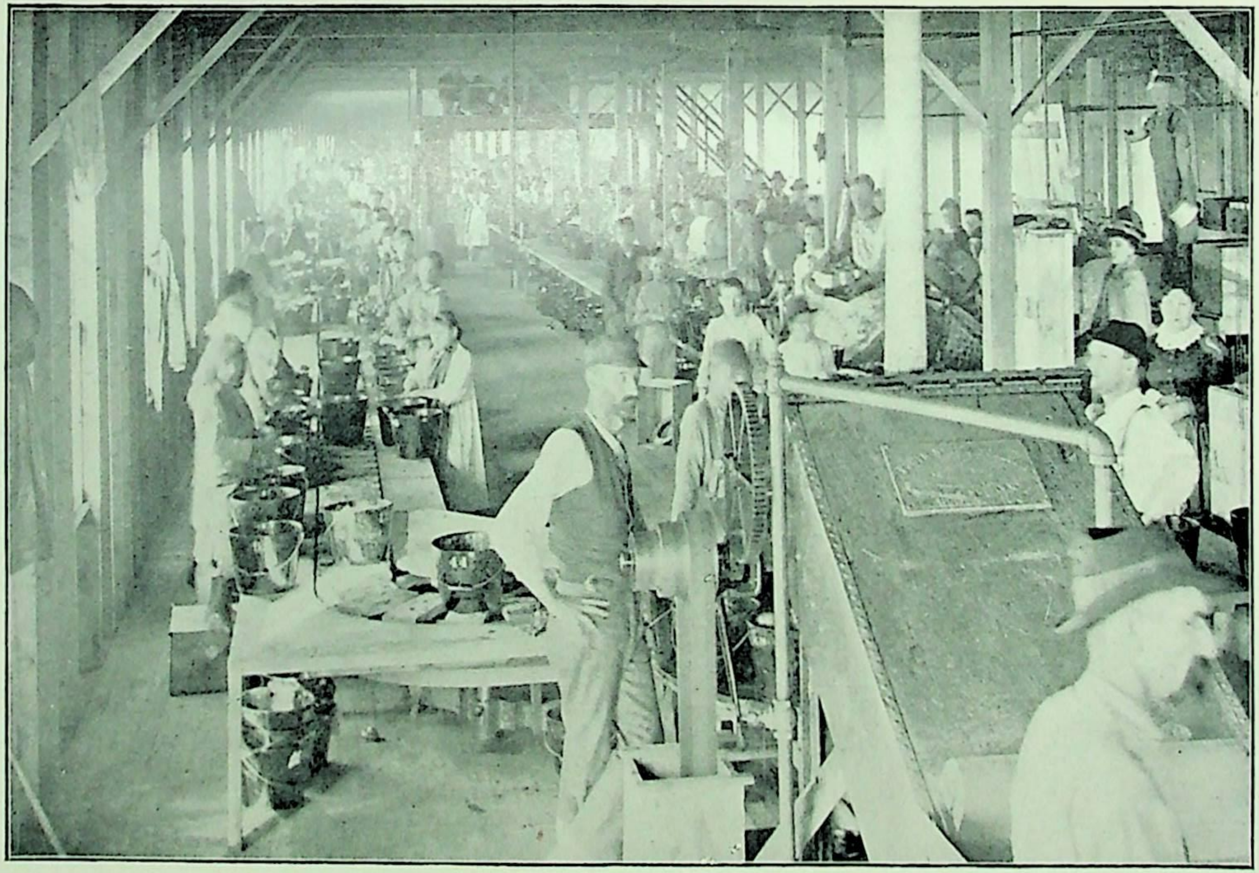
The Ear-Corn Conveyor is of sufficient width to facilitate the sorting of the corn before it passes into the inclined conveyor, which carries it to the cutting-room. Underneath the former conveyor is shown a husk-conveyor, which extends nearly the full length of shed, and in turn discharges into an inclined conveyor, which dumps the husks into pile or wagon, as may be desired. In upper right-hand corner may be seen a cross section of same conveyors together with floor of husking shed.

This system of Conveyors is driven by a Manila rope transmission, which form of transmission is especially adapted for carrying power from one building to another located at a distance.

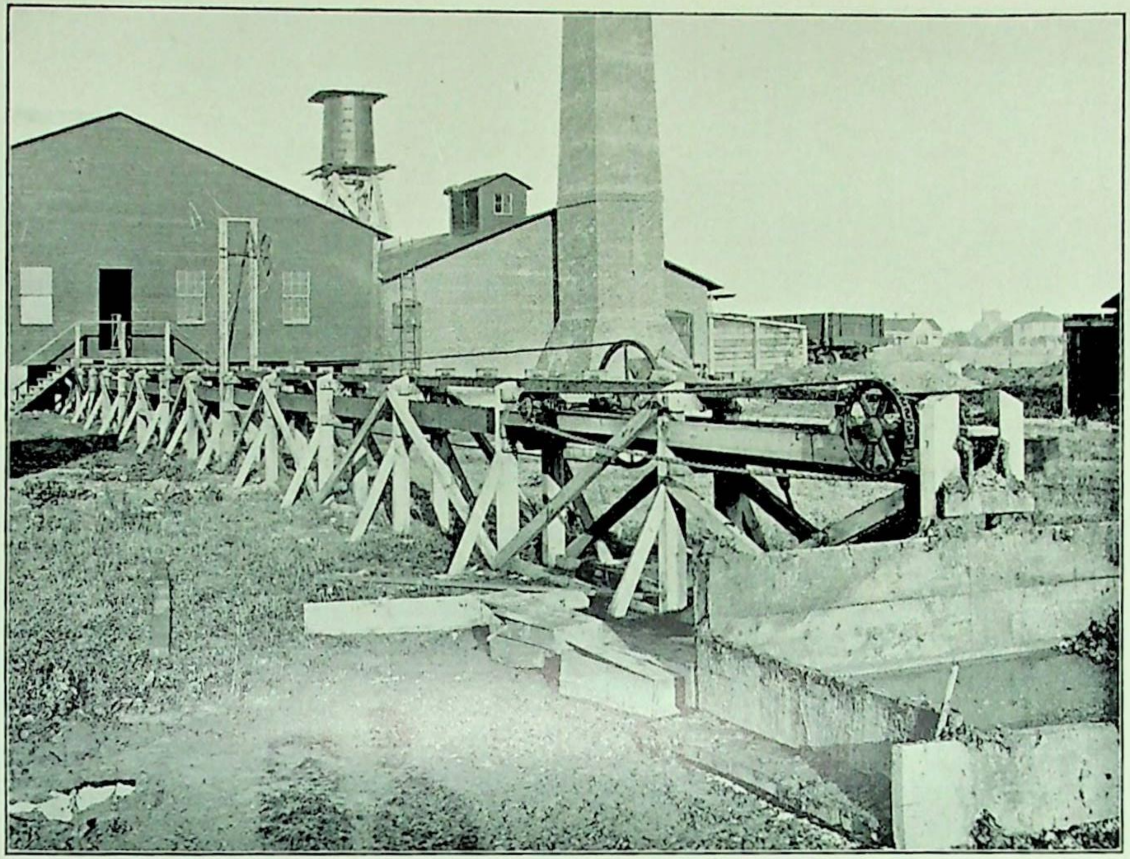
See illustrations of Rope Drives, pages 278 to 297.



Interior view of Tomato Canning Factory of J. T. Staff Packing Co., Cayuga, Ind., showing Link-Belt Patent Transfer and Peeling table. Space occupied, 153 ft. x 14 ft. Transfer will accommodate 200 peelers.



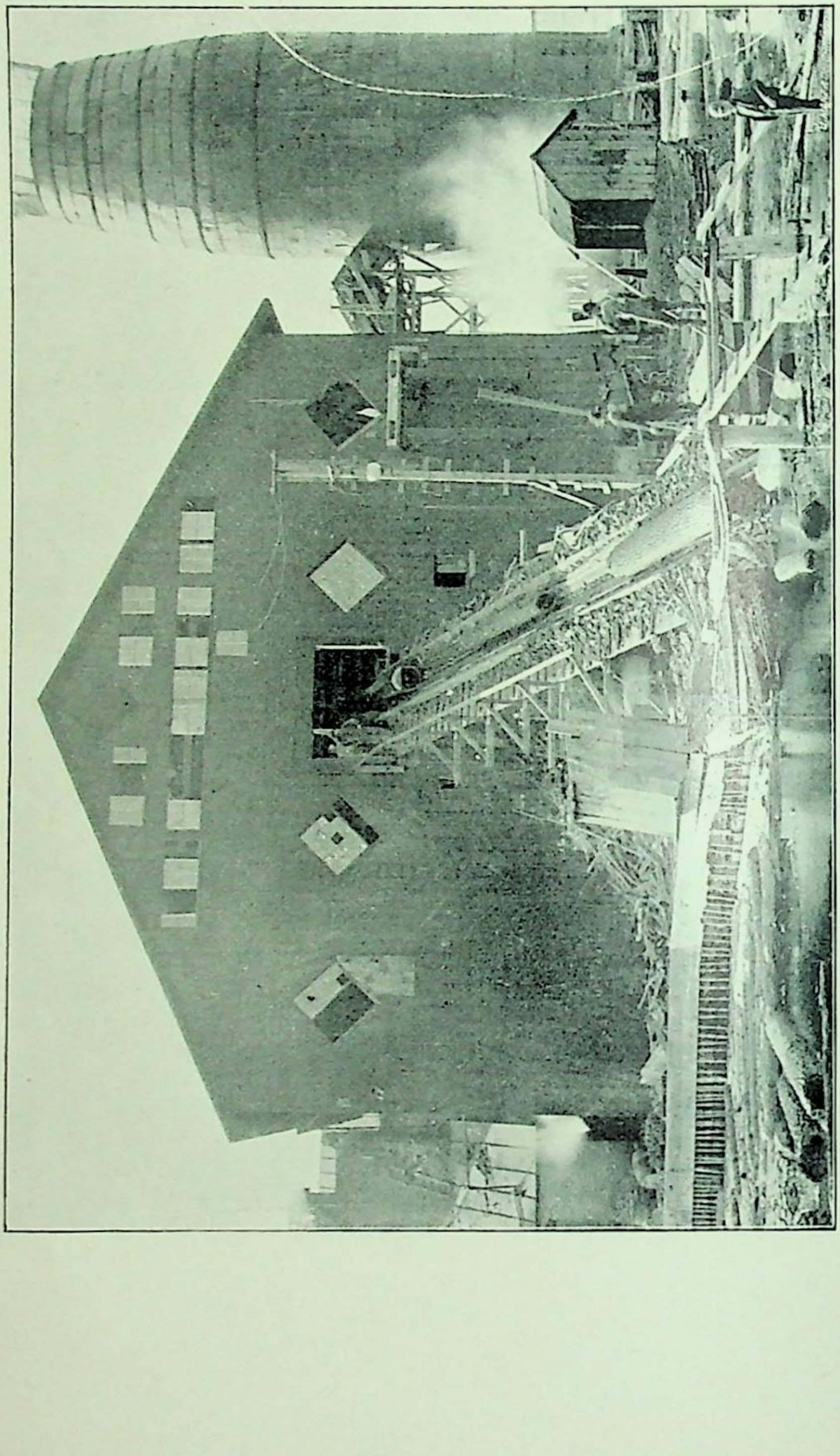
The Link-Belt Patent Transfer and Peeling Table in operation at the J. T. Staff Packing Co. factory, Cayuga, Ind.



Exterior view showing Slop Conveyor, 150 ft. centres, driven by Manila Rope Power Transmission from line shaft in factory, at the J. T. Staff Packing Co., Cayuga, Ind.

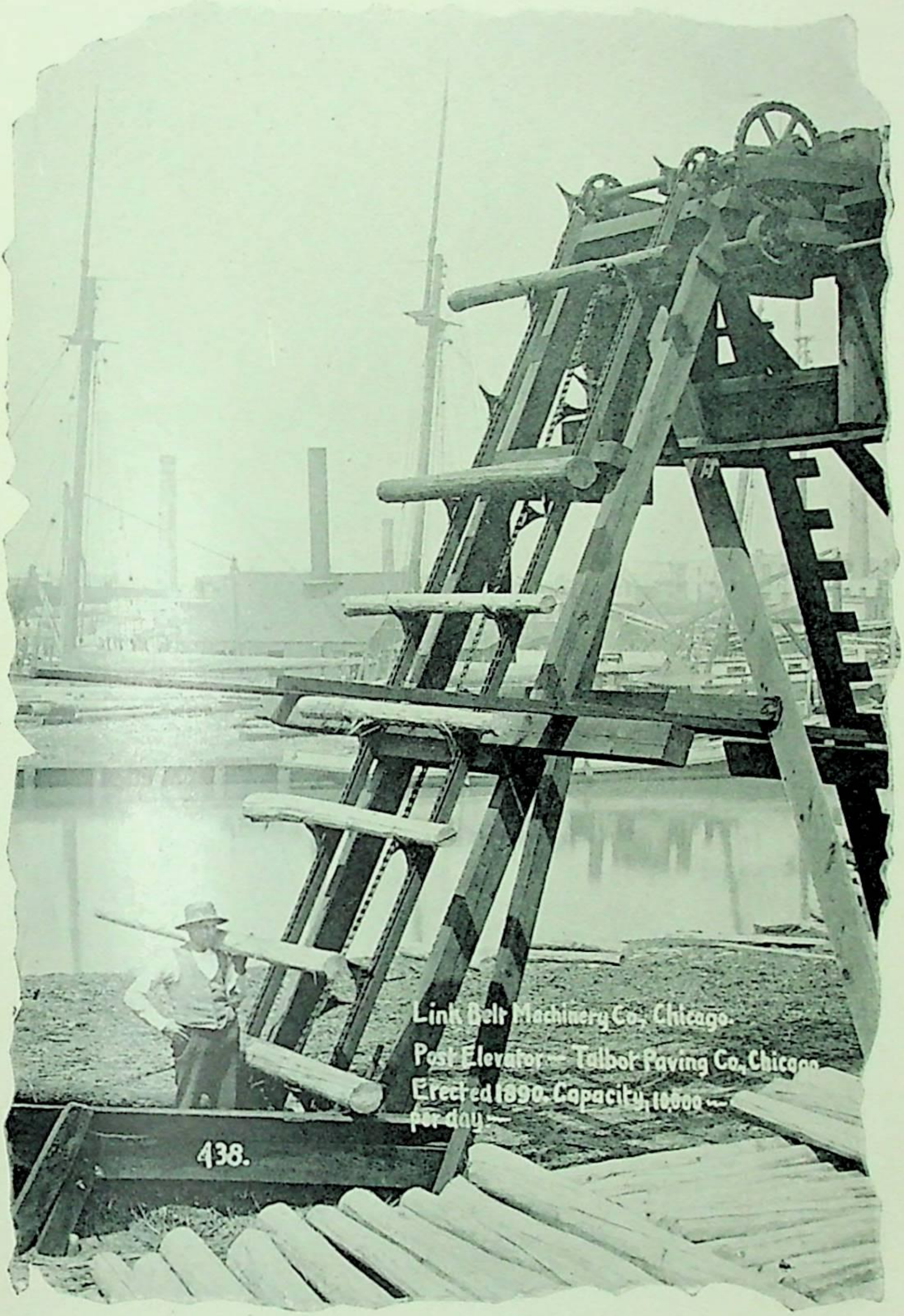
Saw and Planing Mills and Woodworking Establishments.

The lumber trade and allied lines were the first to recognize the value of Link-Belting. For twenty years it has been in successful use, taking the logs from mill pond to log deck, transferring and conveying the finished product and disposing of the offal. Thousands of feet of Giant, Howe Bull, No. 530, No. 500 and Ewart Link-Belting have been sold. For prices and detailed information of these chains, see following pages.

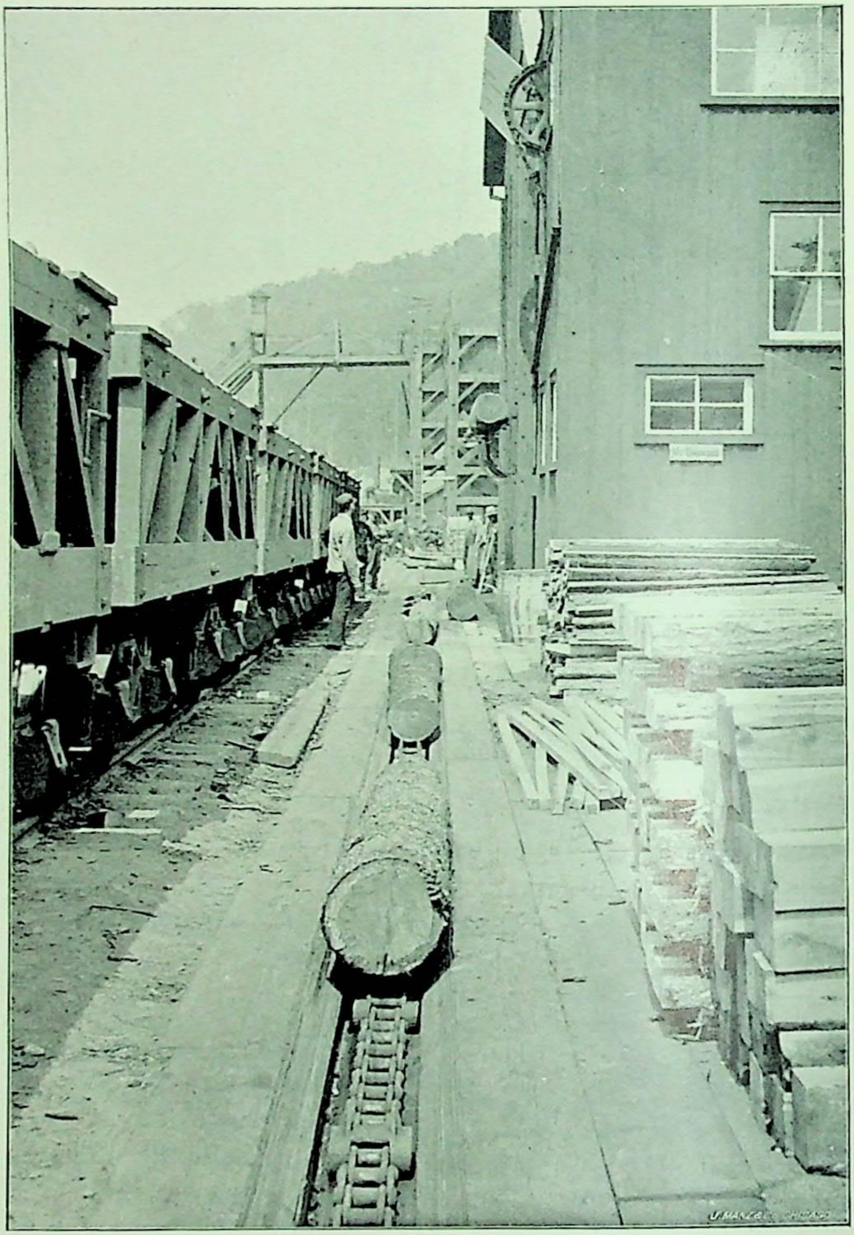


LOG HAUL

Employing No. 1075 Giant Chain, carrying 1,800 logs per day at sawmill of H. Witbeck Co., Marinette, Wis.

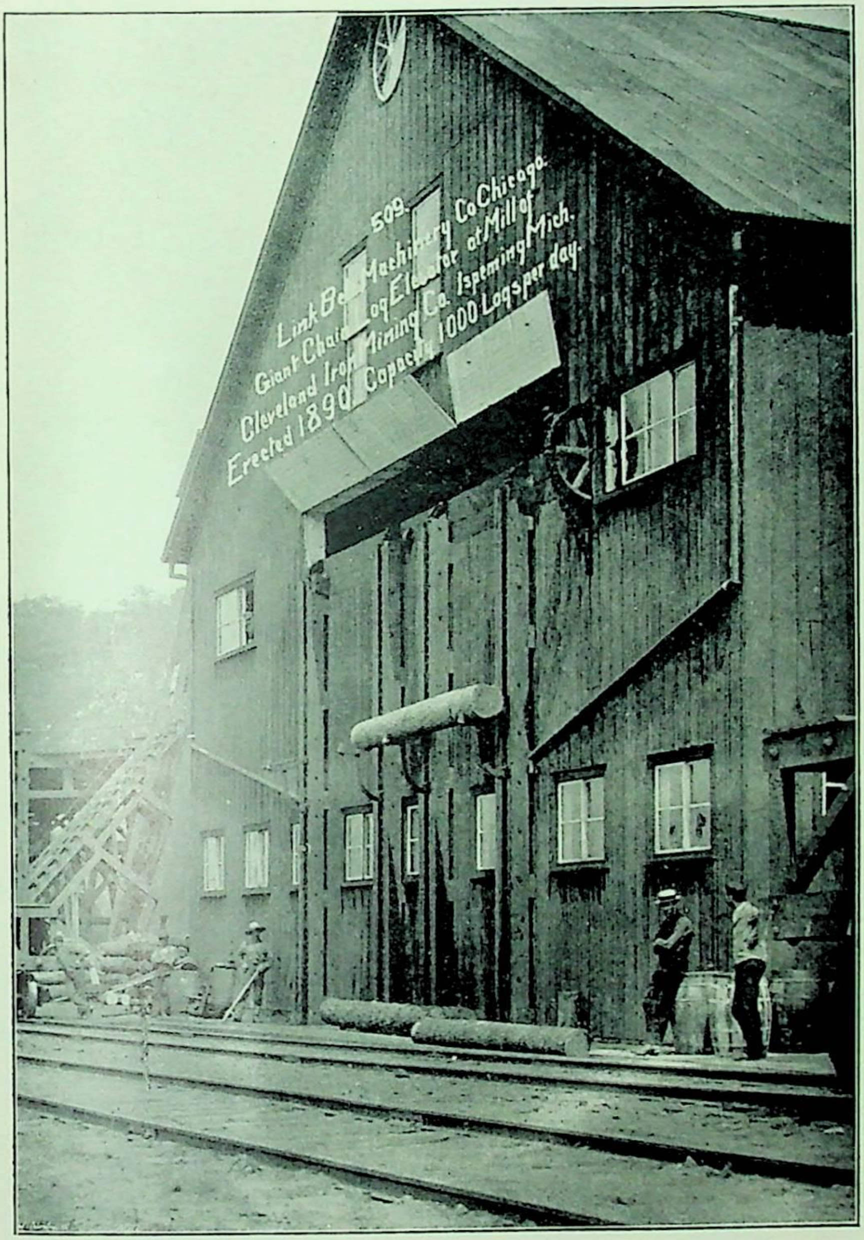

Link Belt Machinery Co, Chicago.
Post Elevator -- Talbot Paving Co, Chicago
Erected 1890. Capacity, 10,000 --
per day --
438.

Cedar Post Elevator at works of Talbot Paving Co., Chicago. Capacity, 10,000 posts per day.



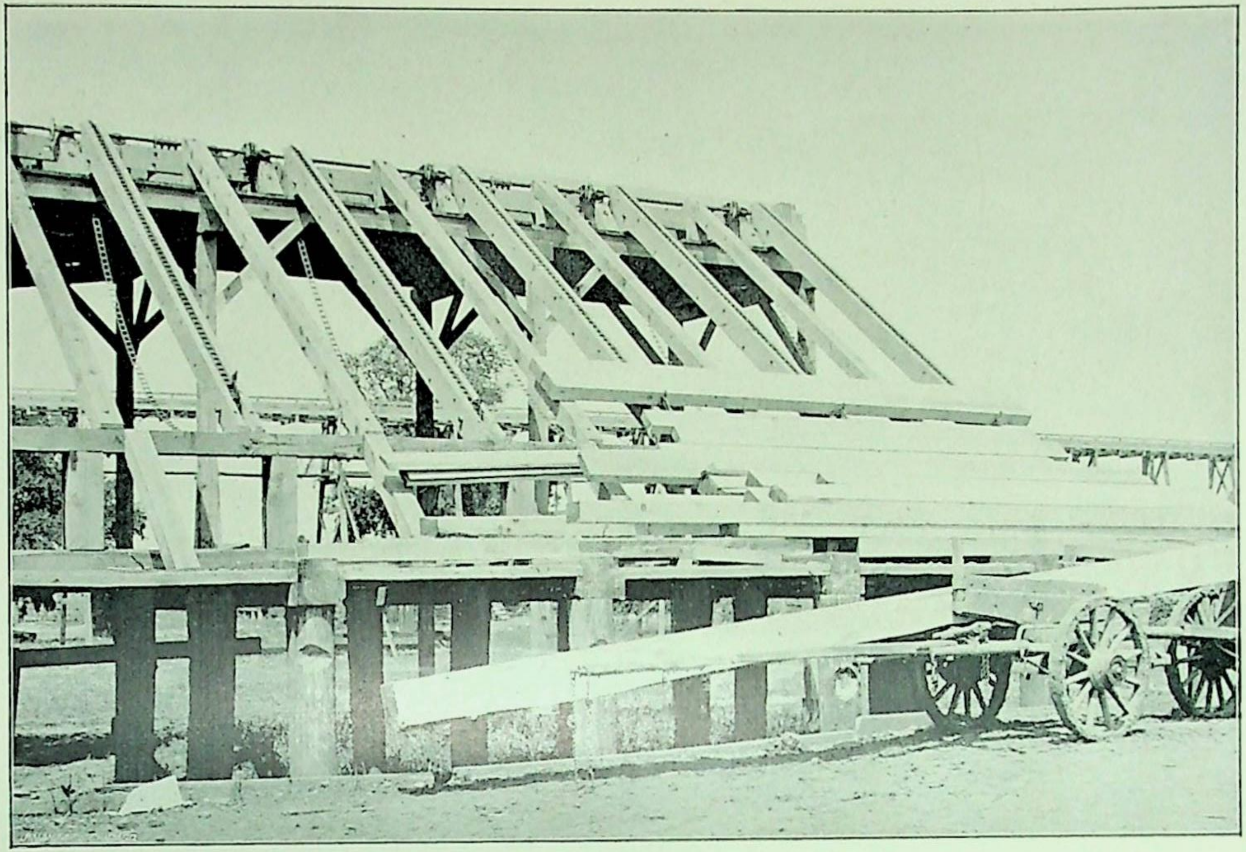
LOG CONVEYOR

employing Howe Bull Chain, Cleveland Iron Mining Co., Ishpeming, Mich. Length, 500 feet. At head end the logs are discharged from chain by a "kicker," which throws them onto the elevator arms as seen in view of Log Elevator on opposite page.


509.
Link Be Machinery Co Chicago.
Giant Chain Log Elevator at Mill of
Cleveland Iro Mining Co. Ispeming Mich.
Erected 1890 Capacity 1000 Logs per day.

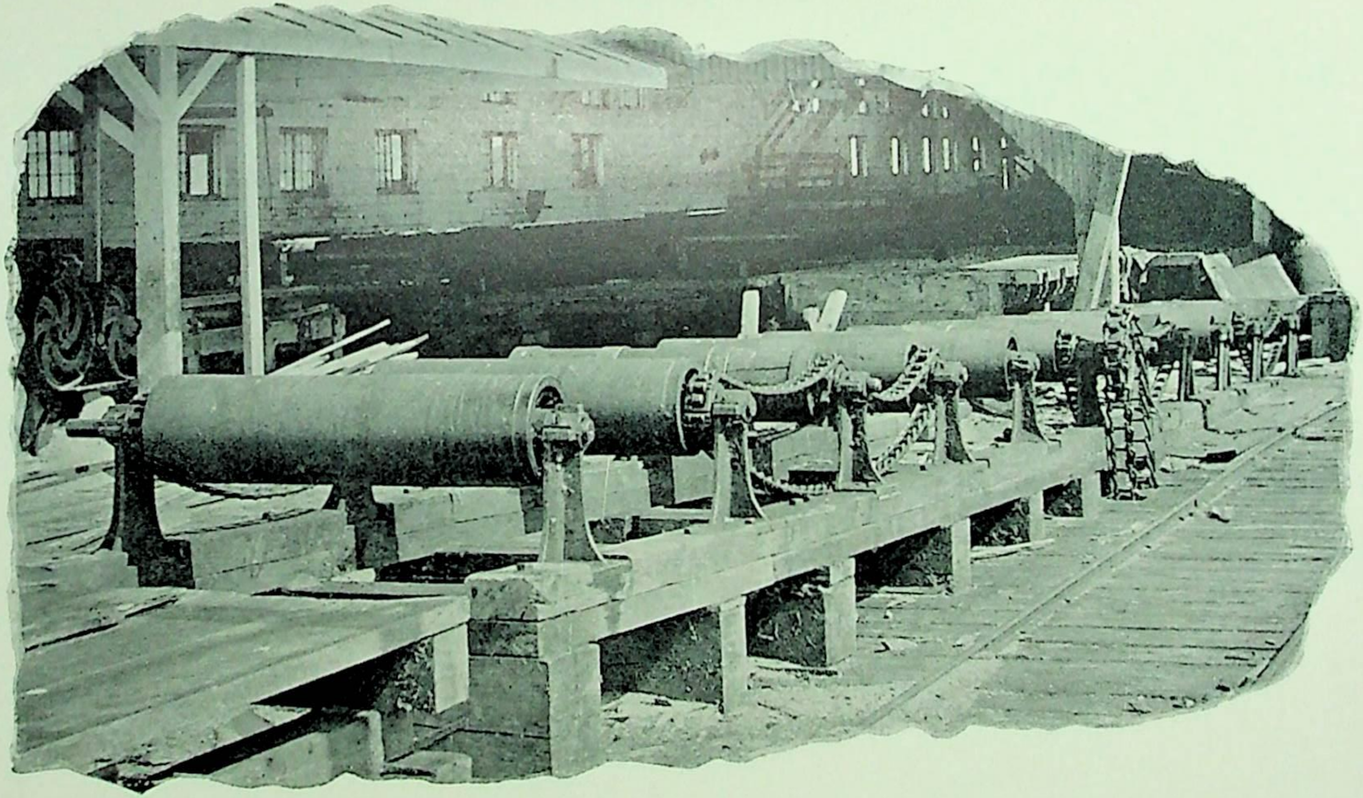
LOG ELEVATOR

Employing Giant Chain at Mill of Cleveland Iron Mining Co., Ishpeming, Mich.

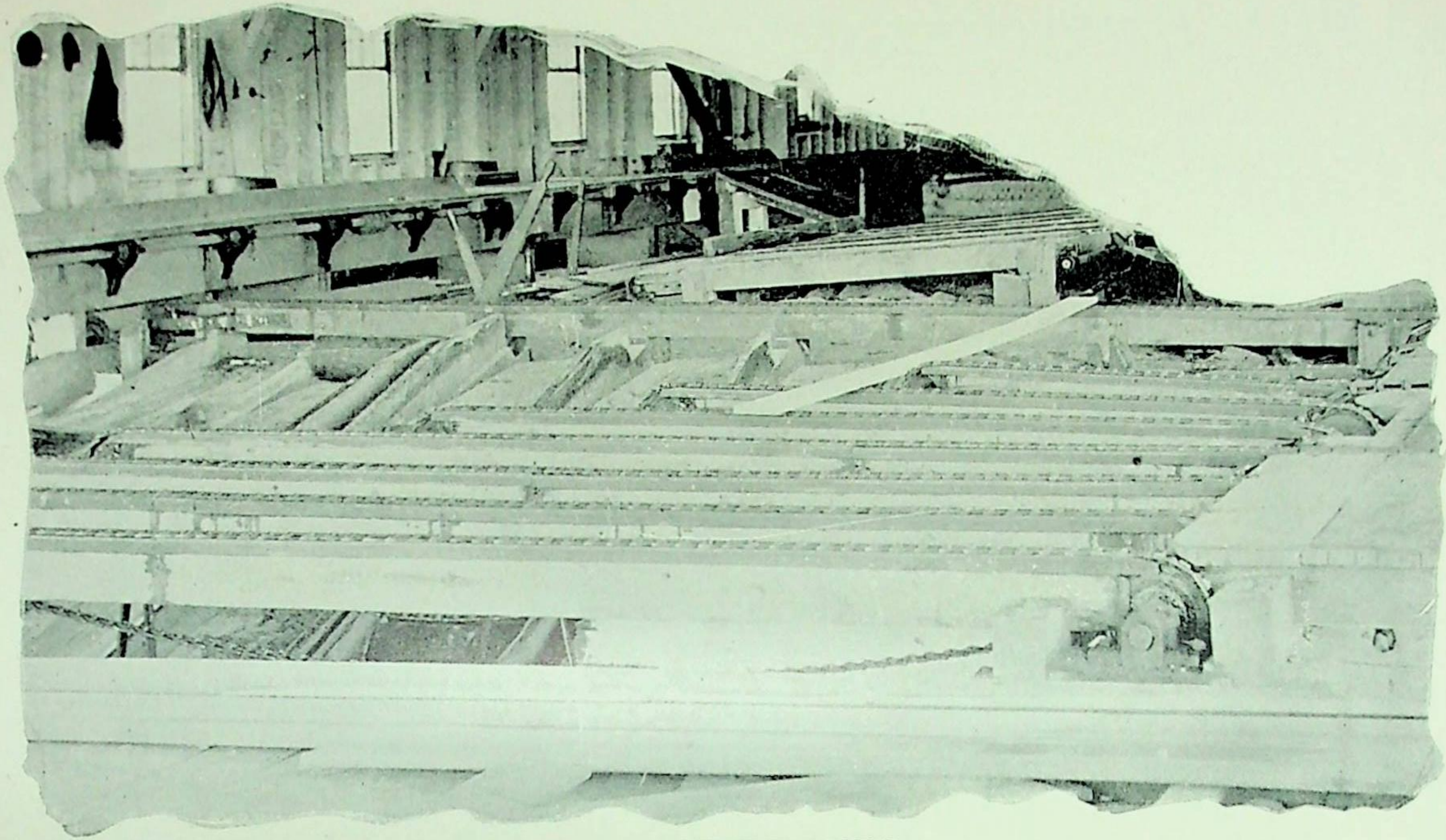


LUMBER ELEVATOR

At Mills of Knapp, Stout & Co., Fort Madison, Iowa. Capacity, 50,000 feet per day.



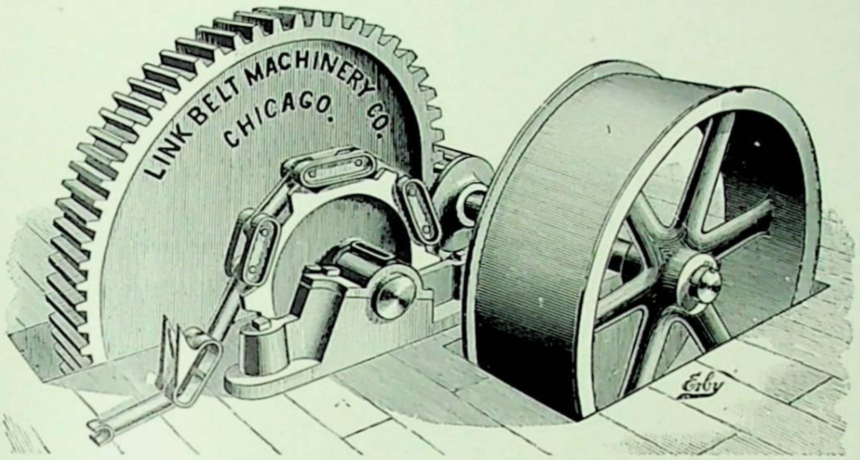
SYSTEM OF LIVE ROLLS,
Driven by Ewart Link-Belting in the Murphy Lumber Co.'s Mill, at Green Bay, Wis.



A LUMBER SORTER

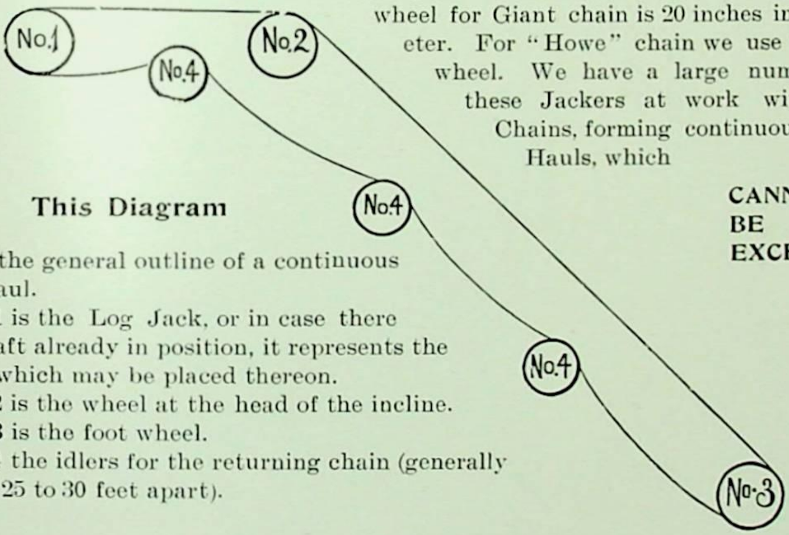
In the Saw Mill of the Lesure Lumber Co., Dubuque, Ia.

Iron Frame Log Jack



As shown in above cut, has a strong, heavy frame, well proportioned for the work to be done. The driving pulley, which is double flanged, is 36 inches in diameter, 13-inch face. The pinion is double flanged, and has 14 teeth. The gear wheel has a solid plate center, with 69 teeth. The sprocket wheel for Giant chain is 20 inches in diameter. For "Howe" chain we use 24-inch wheel. We have a large number of these Jackers at work with our Chains, forming continuous Log-Hauls, which

CANNOT BE EXCELLED



This Diagram shows the general outline of a continuous Log-Haul.

No. 1 is the Log Jack, or in case there is a shaft already in position, it represents the wheel which may be placed thereon.

No. 2 is the wheel at the head of the incline.

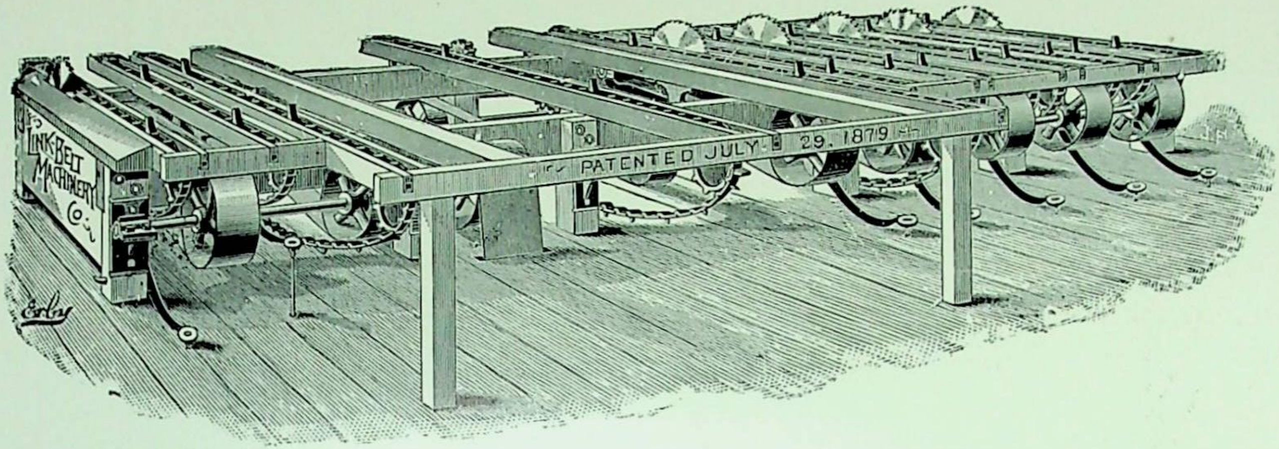
No. 3 is the foot wheel.

No. 4 the idlers for the returning chain (generally placed 25 to 30 feet apart).

In calling for estimates on Log-Haul outfits, state number of feet of chain wanted; also how many No. 4 return idlers you can employ to advantage, and whether you will want one or two No. 2 idlers.

The Emery Lumber Trimmer.

(716 in Successful Operation.)



Description and Prices on Opposite Page.

The Emery Lumber Trimmer.

But one connection is made with power, as the saws and feed-works are driven by main shaft in machine.

The saws are arranged on iron tilt frames, governed by foot levers, and work automatically—so that the raising of one saw causes the other, or others, to drop. This automatic arrangement saves the work of one man.

All the saws can be lowered beneath the table, if desired, to allow long stuff to pass over without trimming.

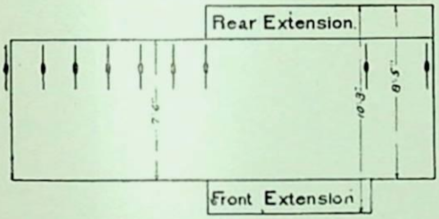
Saws can be kept up so as to cut up long stuff into any required lengths.

There are two lines of chain to each saw, which keep the tables always clear.

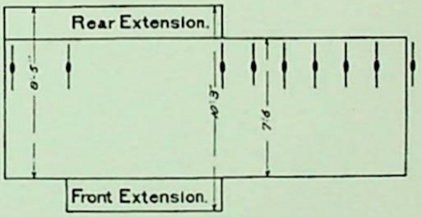
The Trimmer can be set up in a space 7½ feet wide, but with extension in front and rear, as shown in illustration, it requires a space of 10¼ feet wide. This extension is a great convenience where a large amount of lumber is handled, and, as it occupies only the space that would otherwise be used as an alley, it requires no more room to operate a trimmer with it than without it.

In a single circular mill, the trimmer may be placed beside the edger, so that the man who takes from the edger can do all the trimming, and adjust the saws. With this arrangement, the cost of trimming the lumber is only the first cost of the trimmer.

Trimmers are made right or left, and of various lengths.



LEFT HAND TRIMMER



RIGHT HAND TRIMMER

In ordering, state whether you wish a right hand or left hand trimmer.

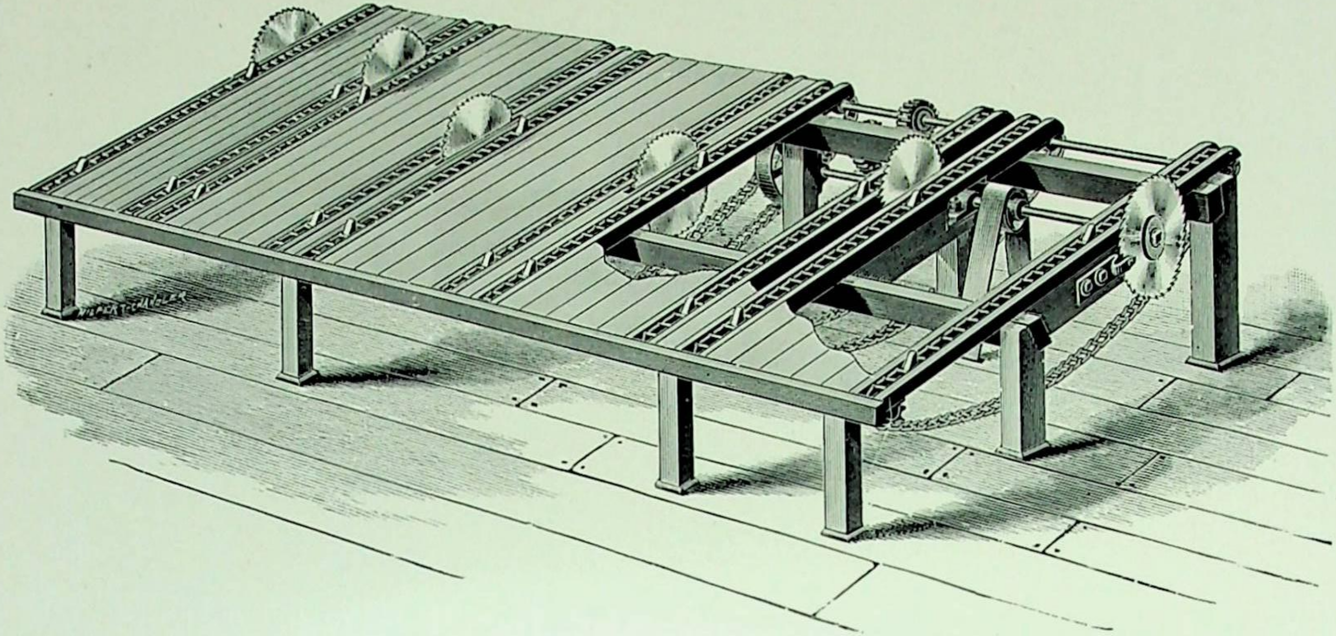
Price List of Trimmers.

To trim 12, 14 and 16 feet	$450 00
To trim 12, 14, 16 and 18 feet	500 00
To trim 12, 14, 16, 18 and 20 feet	550 00
To trim 10, 12, 14 and 16 feet	500 00
To trim 10, 12, 14, 16 and 18 feet	550 00
To trim 10, 12, 14, 16, 18 and 20 feet	600 00

Discount———

Add $50 per additional saw. (These prices do not include Saws or Leather Belts.)

Gang Slab Slasher.



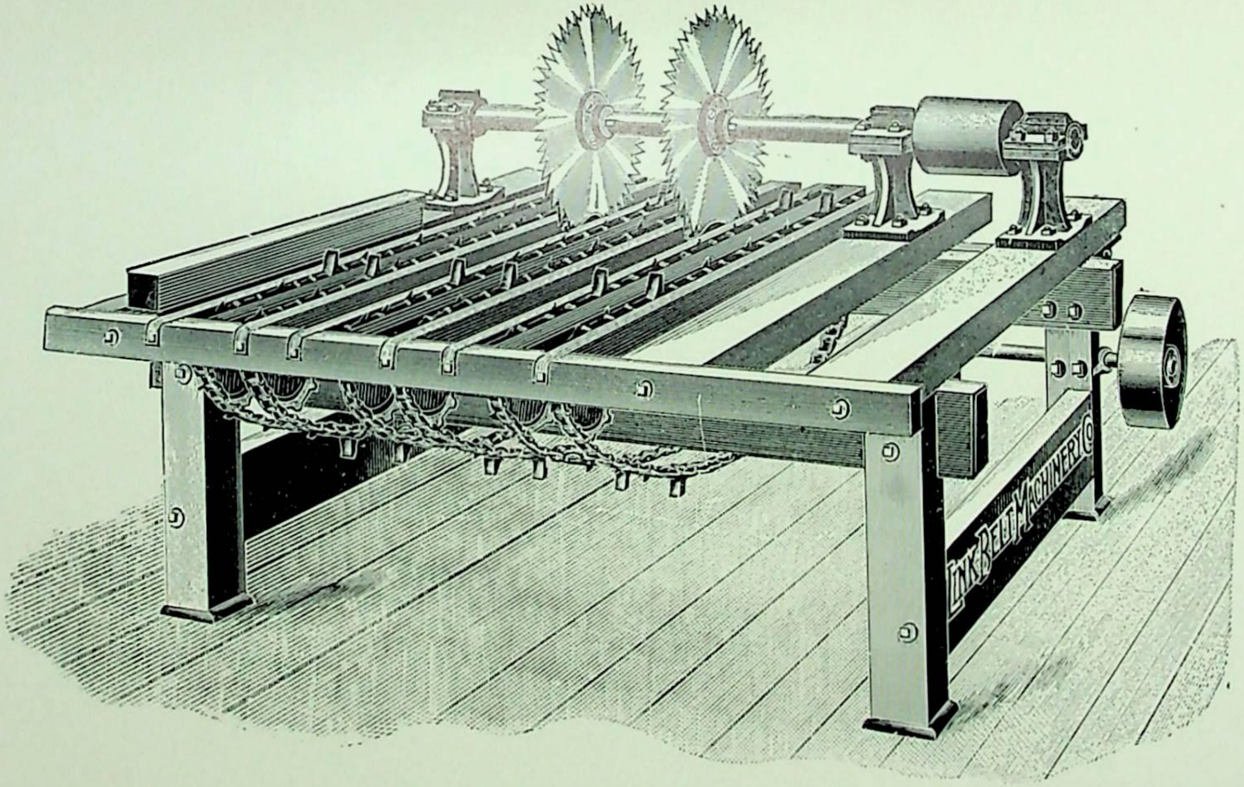
Price List of Gang Slab Slasher.

4-Saw, 16 feet long	$340 00	6-Saw, 20 feet long	$400 00
5-Saw, 16 feet long	360 00	7-Saw, 24 feet long	450 00

Discount ____________

Width of Slasher, 10 feet. Above prices do not include Saws or Leather Belts.

Two-Saw, Four-Foot Slasher with Overhead Saws.



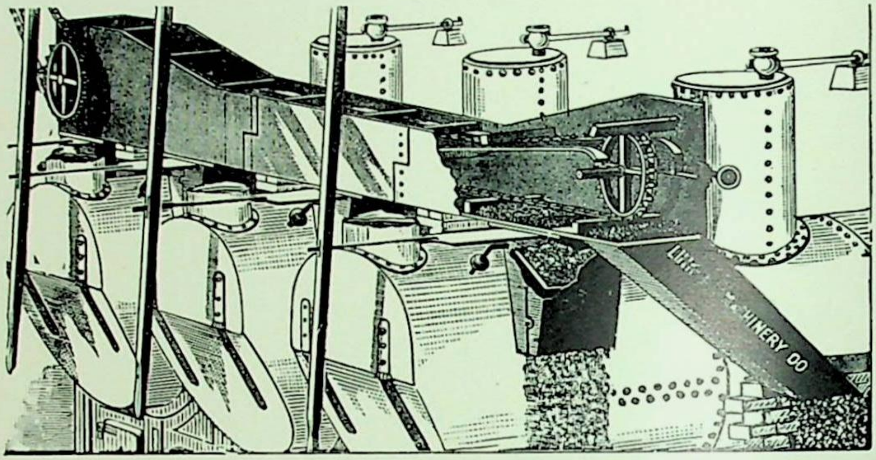
This slasher or woodcutter embodies the essential safety features of Gang Slab Slashers, also the saw guides and carrying chains with the spur links. The saws, which are on an overhead arbor, are 26 inches in diameter and are placed 16 inches apart. Price, $250.00, without saws or leather belts.

We make various modifications of this machine, with saws either above or below the table, using from two to four saws, and placing their centers at distances from 12 inches to 16 inches apart. State your requirements and write for price.

Discount ________________

Automatic Fuel Feeder.

FOR BOILER FURNACES.



By the use of this device, any combustible refuse, such as sawdust, may be conveyed to the boiler room, and automatically discharged into the furnace between the boilers. It renders unnecessary the constant opening of the fire doors, and the consequent admission of large volumes of cold air. The material is screened, and the supply may be regulated by the engineer. The fuel is thoroughly distributed over the grate bars, and the fire being steady, the steaming capacity of the boilers is greatly increased.

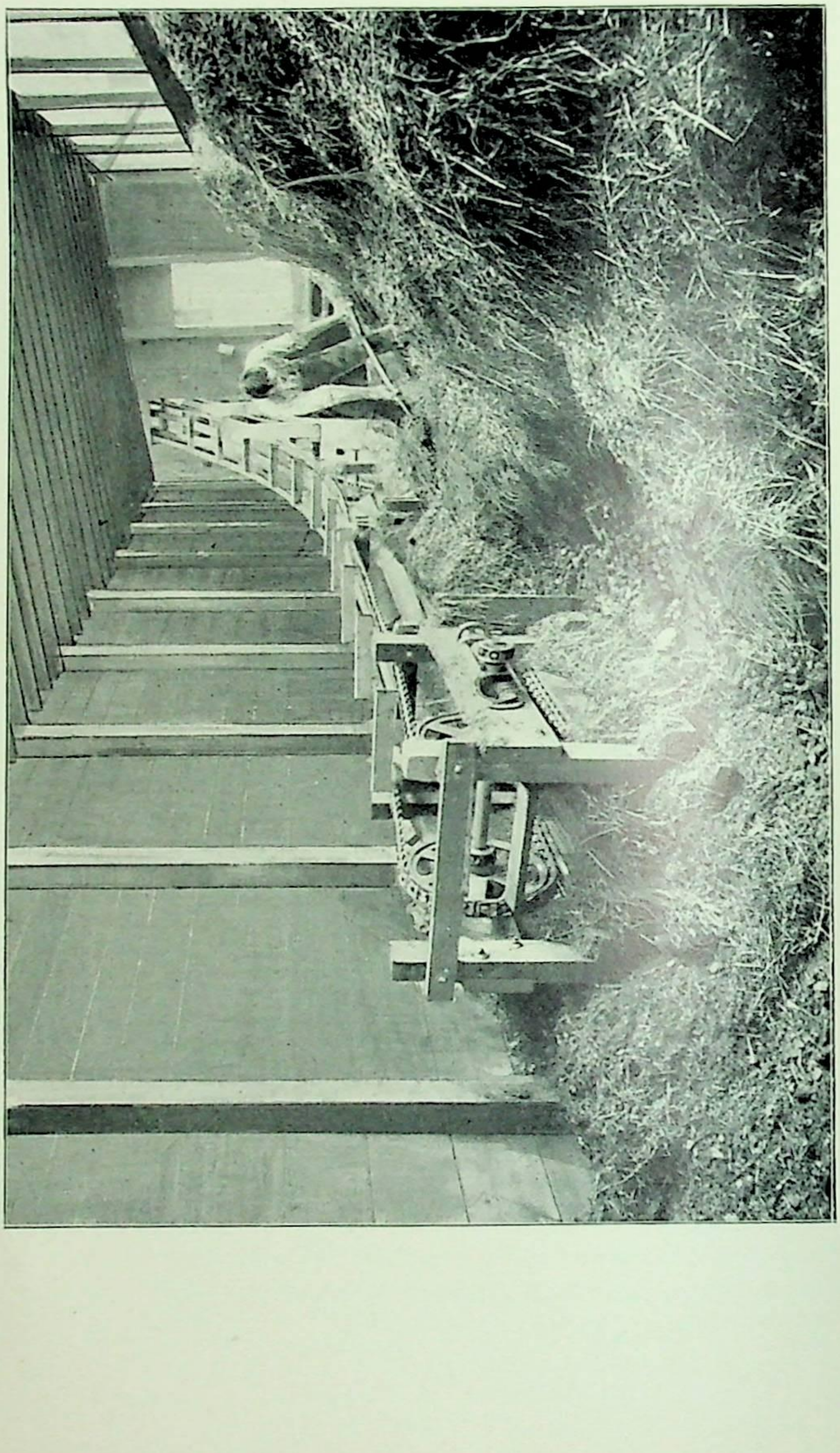
This device is entirely of iron, and the arrangement of delivery spouts such that it is impossible for the fire to communicate to sawdust till discharged.

Send for estimates; give number of boilers and the exact diameter and the spaces between, and say whether the feed is right or left hand. The one in the cut is a Right-Hand Feeder, because the lower chain runs to the right hand as you stand in front of the boilers. If the measurements are sent correct, we can build and send you a Feeder and guarantee a fit, and it can be set up and bricked in one-half day by two good men and ready for use.

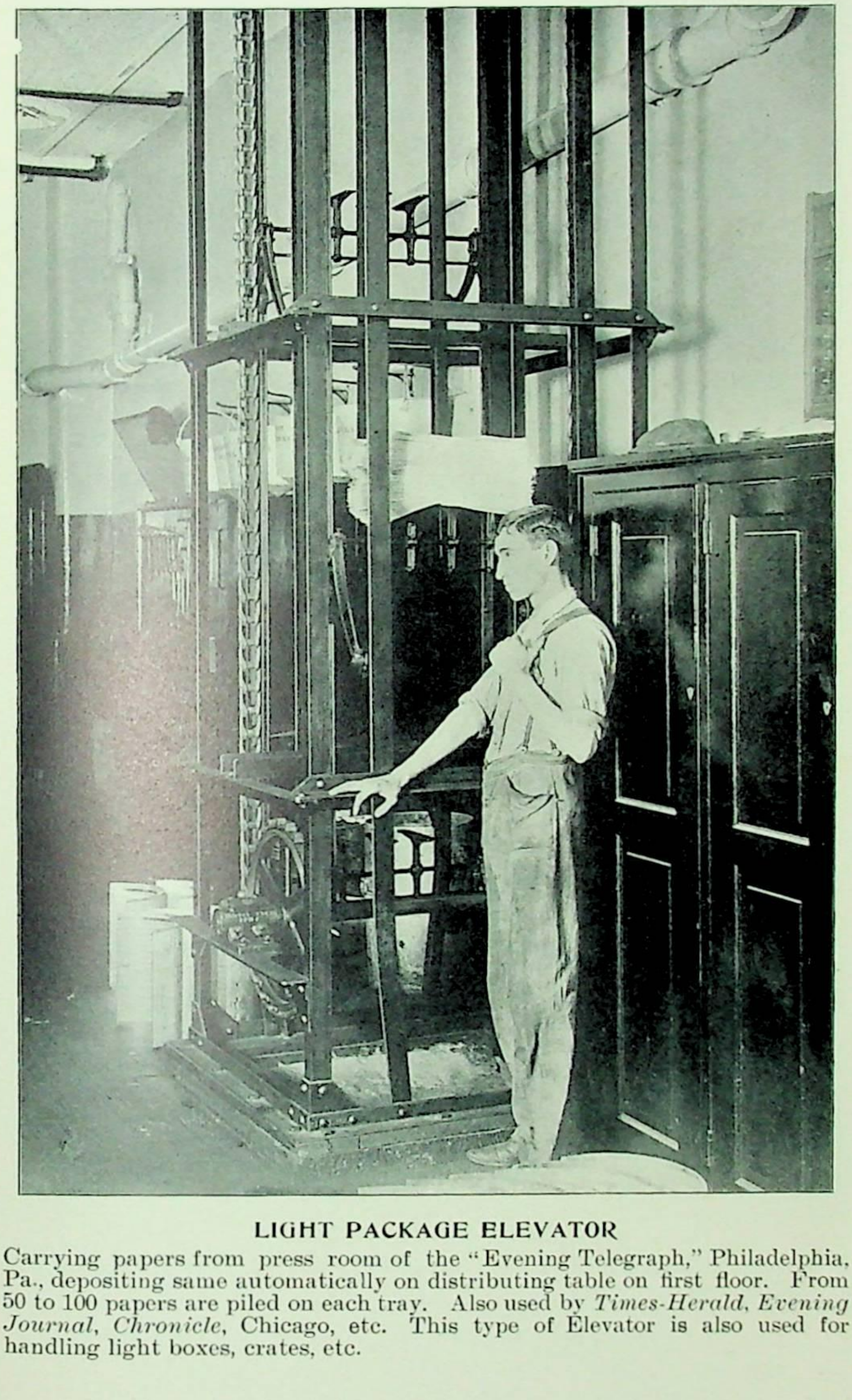
Miscellaneous.

In addition to the engravings on following pages, the list below of Link-Belt Elevators and Conveyors gives some idea of the adaptability of our machinery to all classes of industries:

T. DeYoung & Son, South Holland, Ills.	Cabbages.
United Glass Co , Ottawa, Ills.	Plate Glass.
Skabcura Dip Co., St. Louis, Mo.	Tobacco Stems.
Metallic Extraction Co., Cyanide, Colo.	Hot Ores, etc.
Heissler & Junge Bakery, Chicago	Sacks Flour.
Peoples' Gaslight & Coke Co., Chicago	Oxide.
Marion Fruit Jar Co., Marion, Ind.	Glass Jars.
Westinghouse Air-Brake Co., Wilmerding, Pa.	Foundry Flasks.
Junaluska Leather Co., Waynesville, N. C.	Tan Bark.
Solvay Process Co., Detroit, Mich	Soda Ash.
Knickerbocker Ice Co., Chicago	Water.
Sterling Cycle Co., Kenosha, Wis.	Sand.
W. H. Watson, Chicago	Gravel.
Tennessee Mfg. Co., Nashville, Tenn.	Cotton Rolls.
Ducktown Sulphur, Copper & I. Co., Isabella, Tenn.	Granulated Slag.
W. B. Owen, Hobart, Ind.	Mud.
Pabst Brewing Co., Milwaukee, Wis.	Wet Grains.
Jacob Dold Packing Co., Kansas City, Mo.	Crushed Ice.
Grant Chemical Co., Chicago	Sal Soda.
Little Chute Pulp Co., Little Chute, Wis.	Pulp Blocks.
Jno. Morrell & Co., Ottumwa, Iowa	Hot Hogs.
Ohio Valley Tie & Lumber Co., Evansville, Ind.	Ties.
Wabash Paper Co , Wabash, Ind.	Baled Straw.
Anglo-American Pkg. & Prov. Co., Chicago	Scrap Meat.
Chicago Hair & Bristle Co., Chicago	Hair.
Royal Salt Co., Kanapolis, Kan.	Salt.
Am. Hominy & Flake Co., Kansas City, Mo.	Hominy.
Calumet Distilling Co., New Chicago, Ills.	Slops.
Philadelphia Quartz Co., Anderson, Ind.	Stone.
Cambria Starch Co., Cambria, Wis.	Potatoes.
Salem Canning Co., Salem, Ore.	Cans.
Grand Rapids Gypsum Co., Grand Rapids, Mich.	Gypsum.
Opaque Shade Cloth Co., W. Pullman, Ill.	Cloth.
Standard Oil Co., Chicago	Dust.

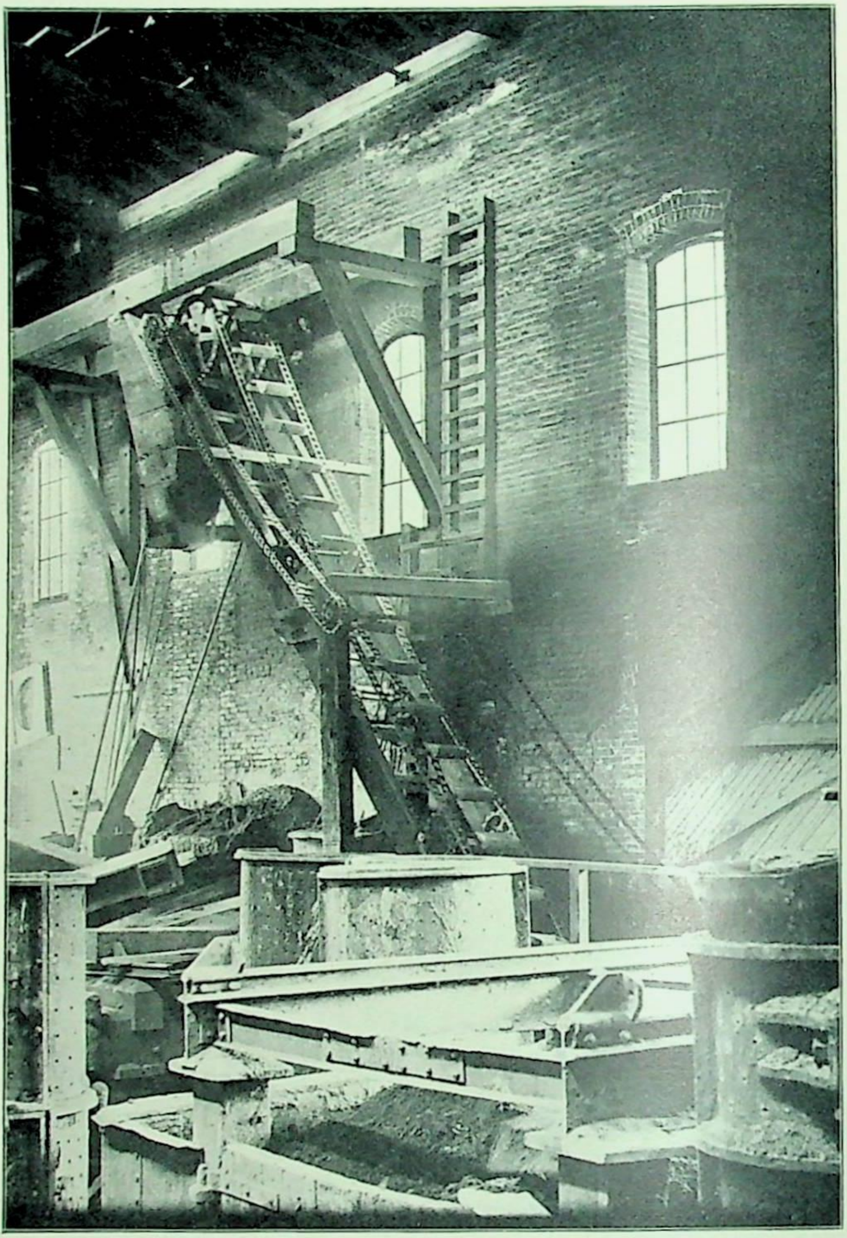


Conveyor handling manure from barn to boiler room of the Consumers Co., Chicago.



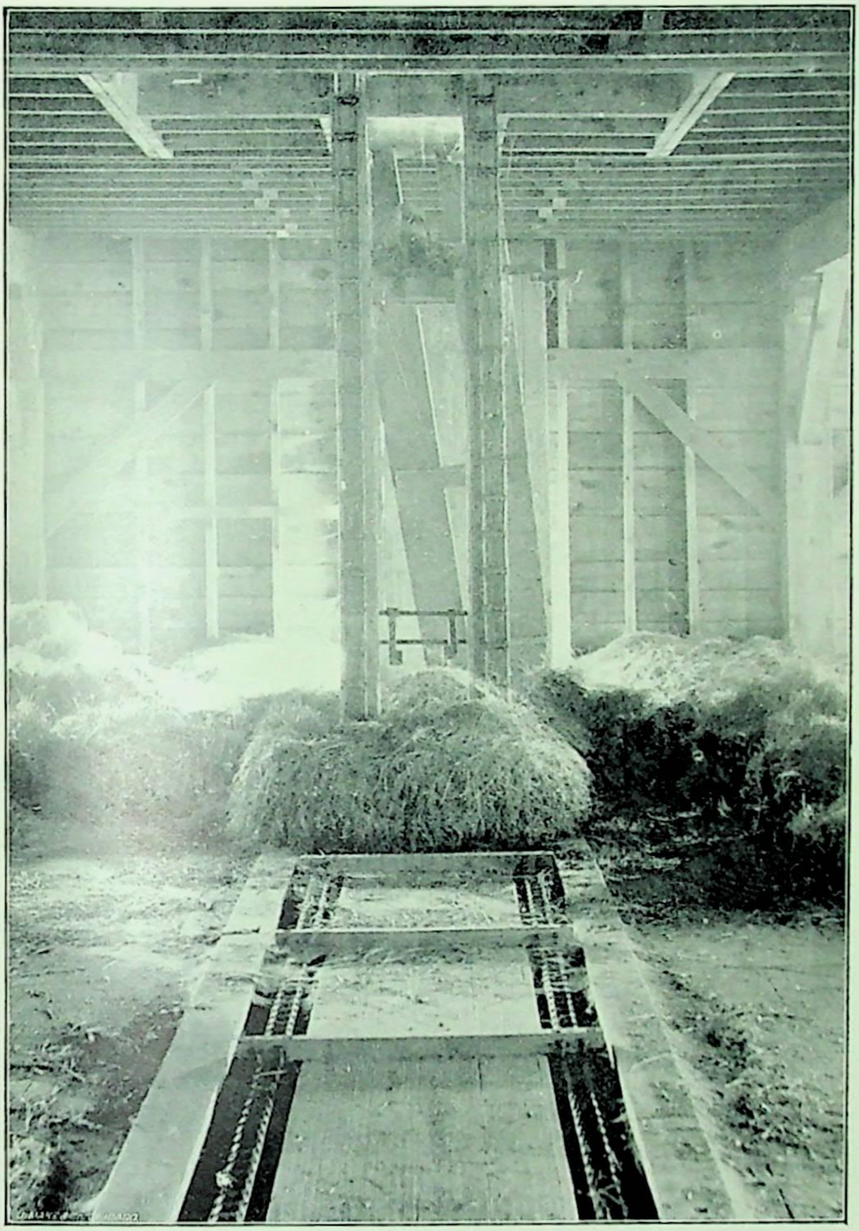
LIGHT PACKAGE ELEVATOR

Carrying papers from press room of the "Evening Telegraph," Philadelphia, Pa., depositing same automatically on distributing table on first floor. From 50 to 100 papers are piled on each tray. Also used by *Times-Herald*, *Evening Journal*, *Chronicle*, Chicago, etc. This type of Elevator is also used for handling light boxes, crates, etc.



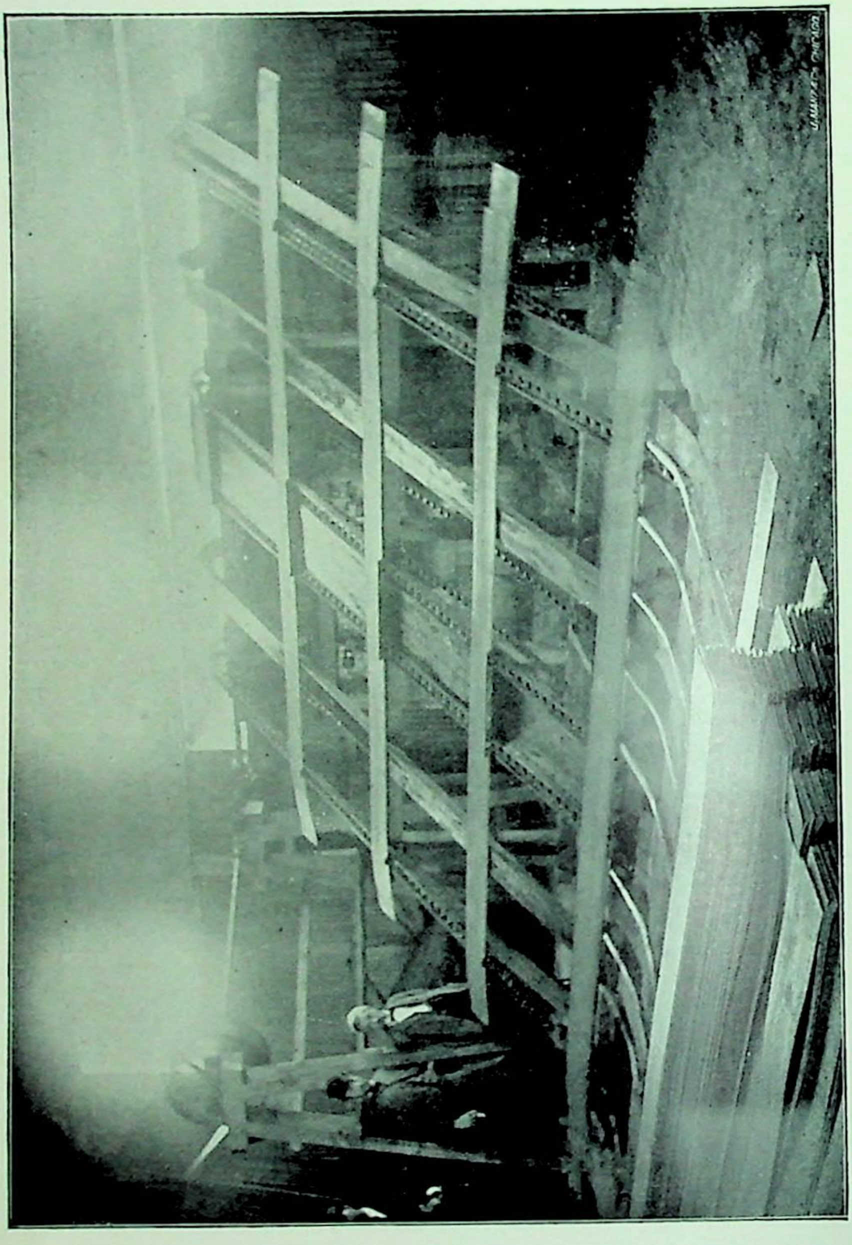
FOUNDRY SAND ELEVATOR

With buckets attached to spacing bars. Erected 1893 for the Camden Iron Co., Camden, N. J.



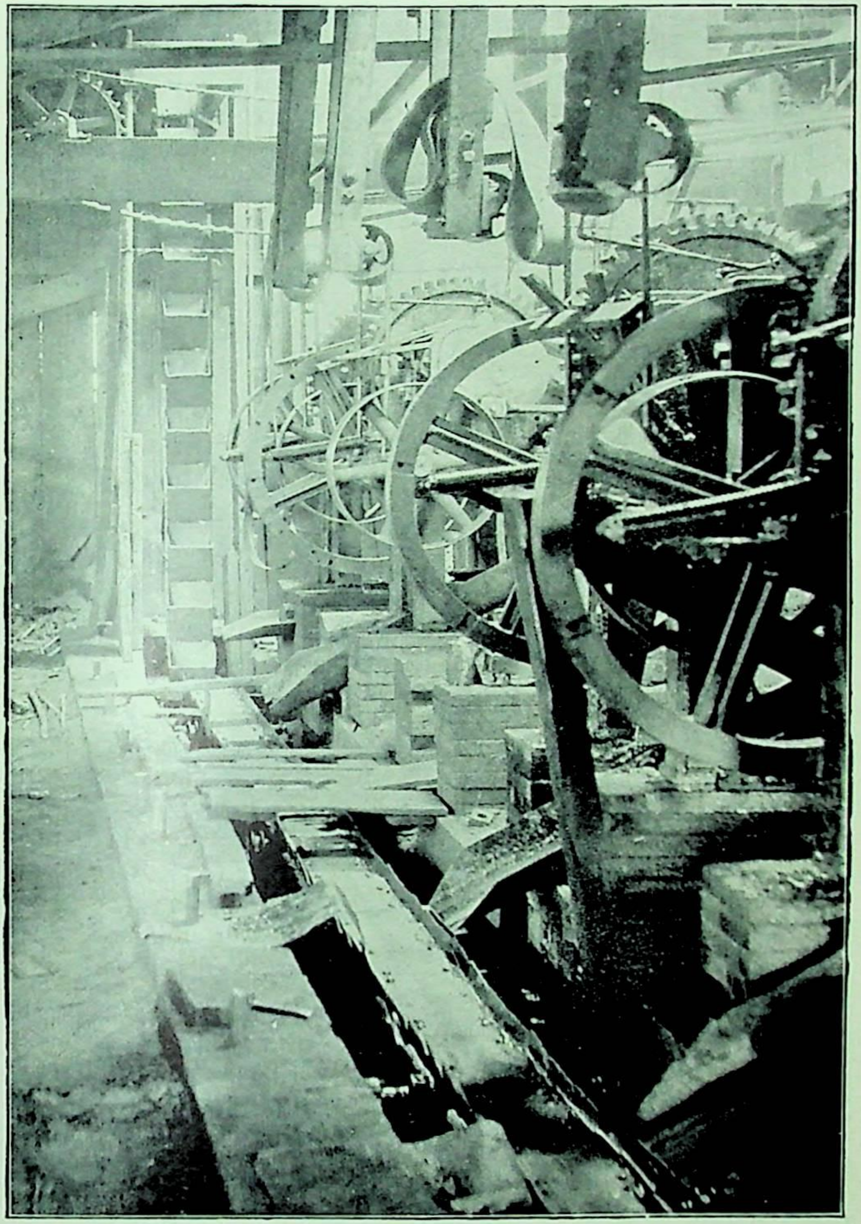
BALED HAY CONVEYOR AND ELEVATOR.

Erected in 1887 at warehouse of Union Stock Yards Assn., St. Paul, Minn. Capacity, 1,000 bales per day.

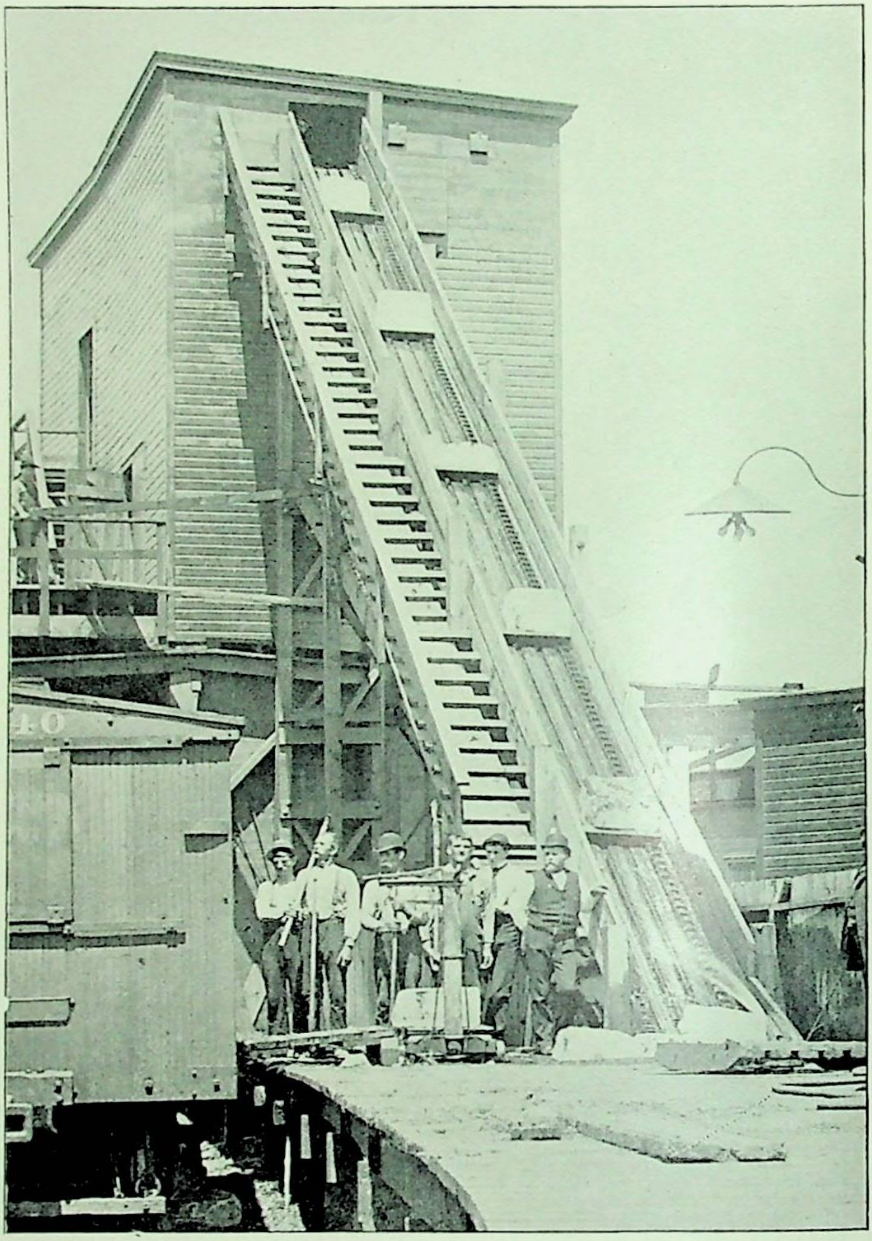


SKELP IRON CONVEYOR

Loading flat cars at works of Keystone Iron Co., Philadelphia, Pa.

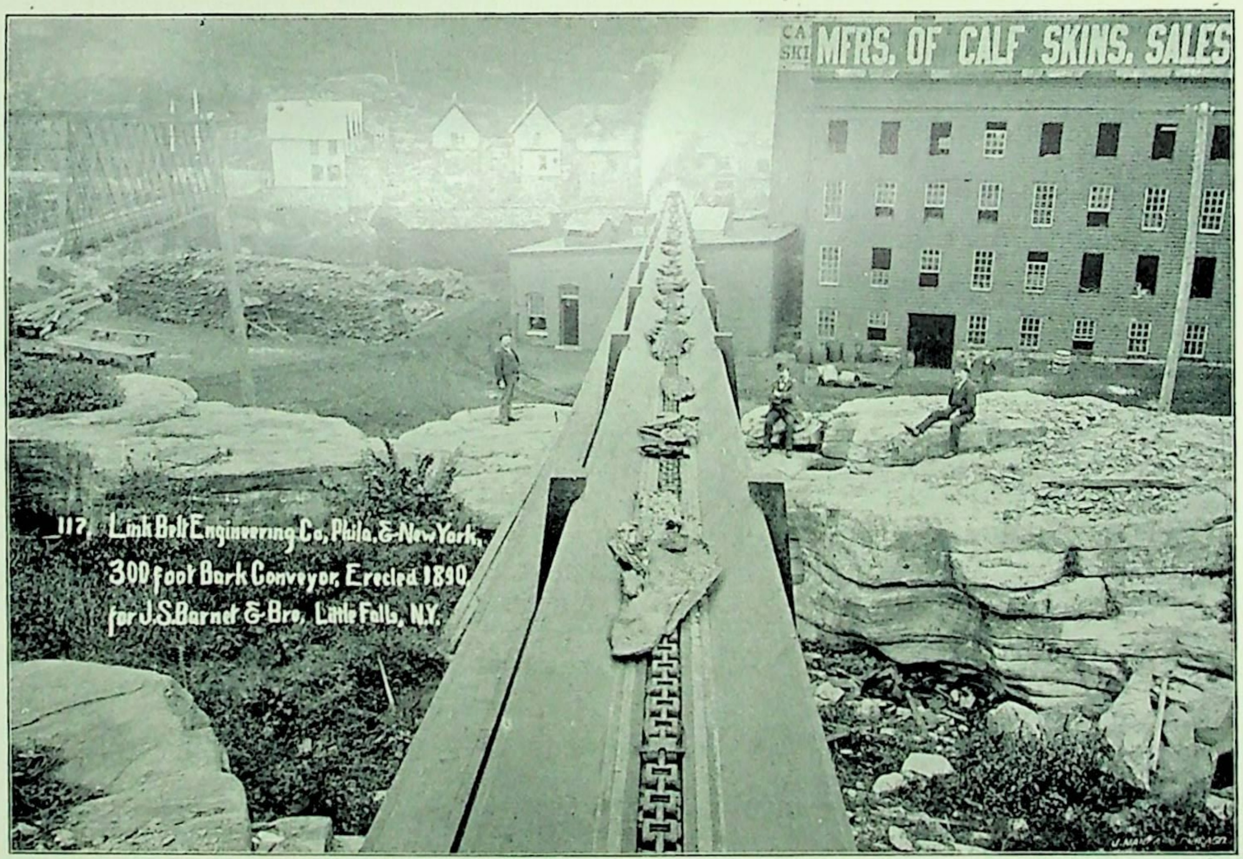


Endless Trough Conveyor and Link-Belt Elevator Handling Hot Spikes.

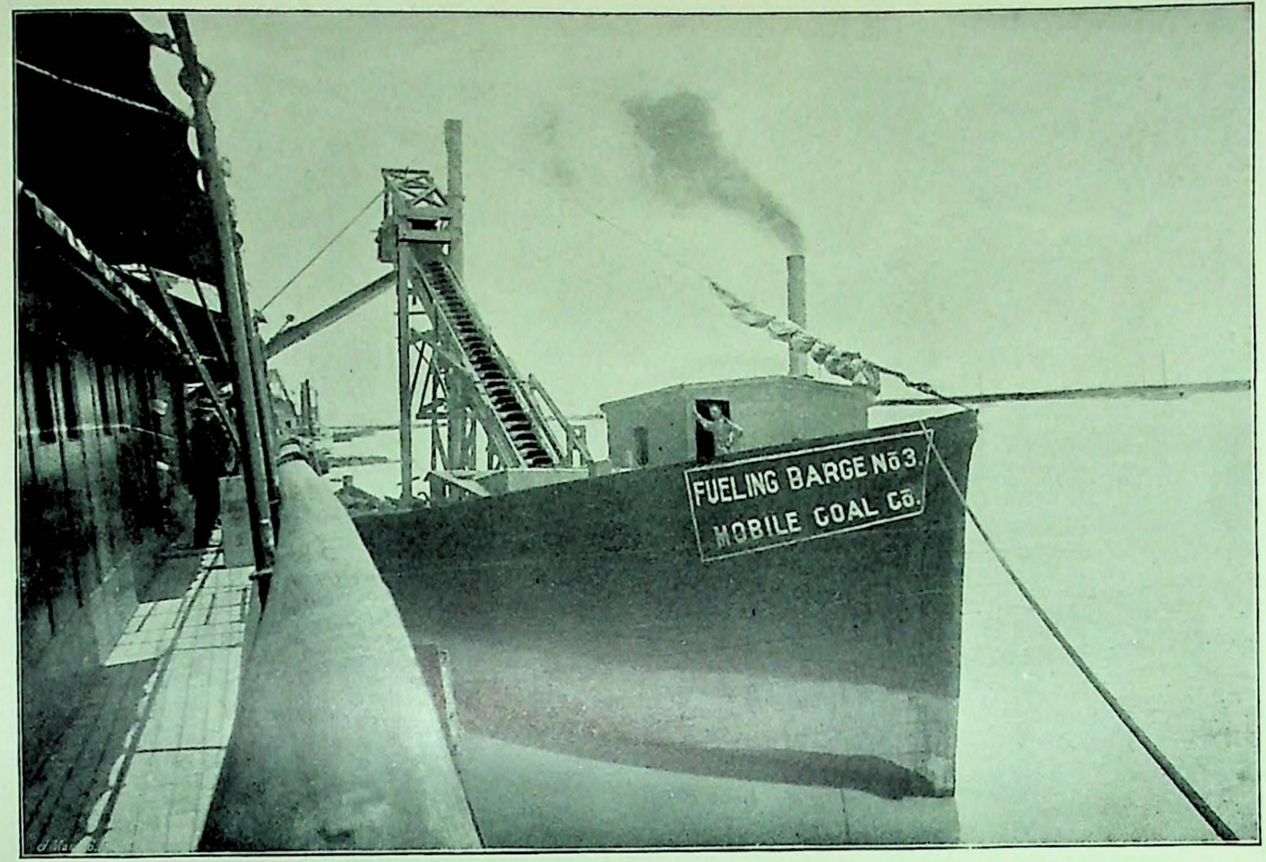


INCLINED ICE ELEVATOR

At Nelson Morris & Co., Union Stock Yards, Chicago. Capacity, 80 tons per hour from cars to crushers. Plans and estimates for Ice Elevators and Conveyors, either undershot or overshot, furnished upon application.

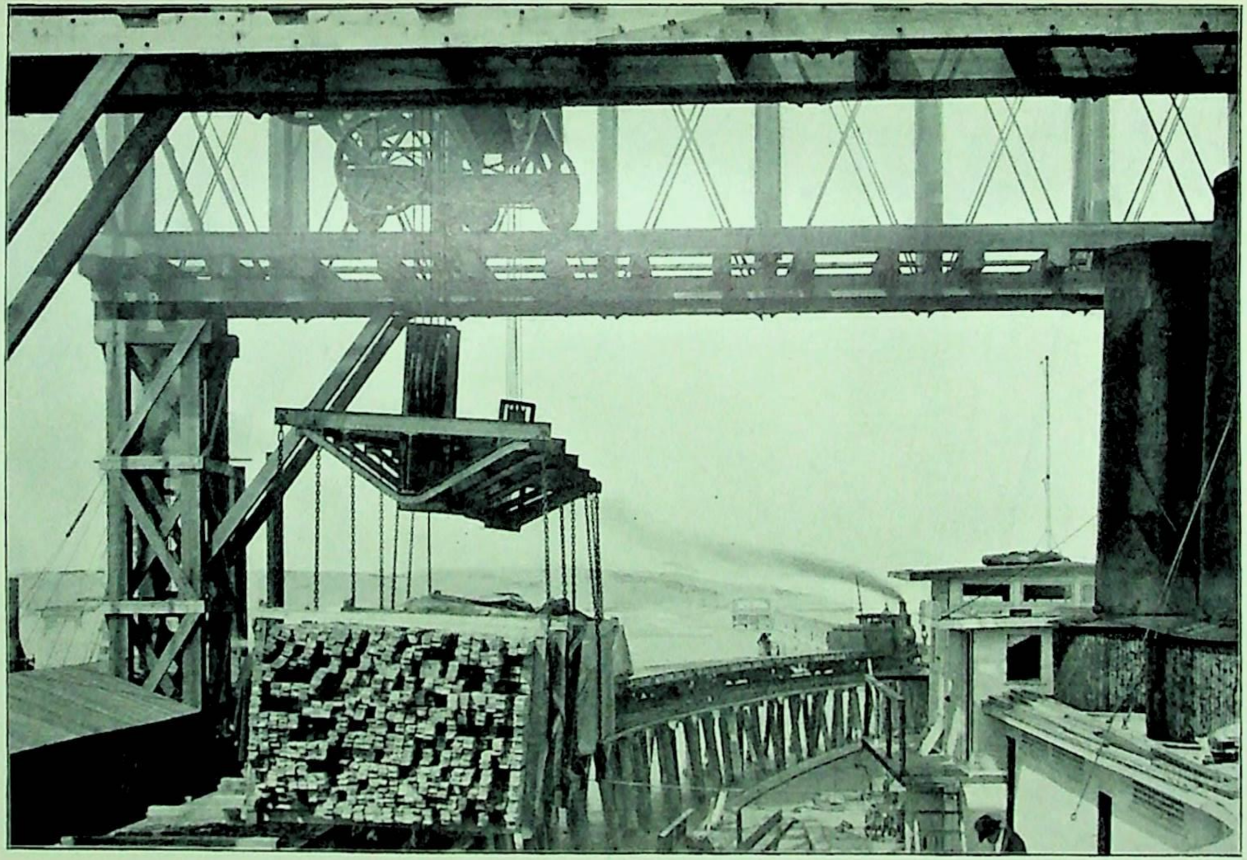

CA
SKI
MFRS. OF CALF SKINS. SALES
117. Link Belt Engineering Co, Phila. & New York.
300 foot Bark Conveyor. Erected 1890.
for J. S. Barnet & Bro. Little Falls, N.Y.

Estimates upon Conveyors, any capacity, for carrying bark from pile to mill room, thence to leaches, and finally to yard or boiler room, promptly submitted upon receipt of particulars.



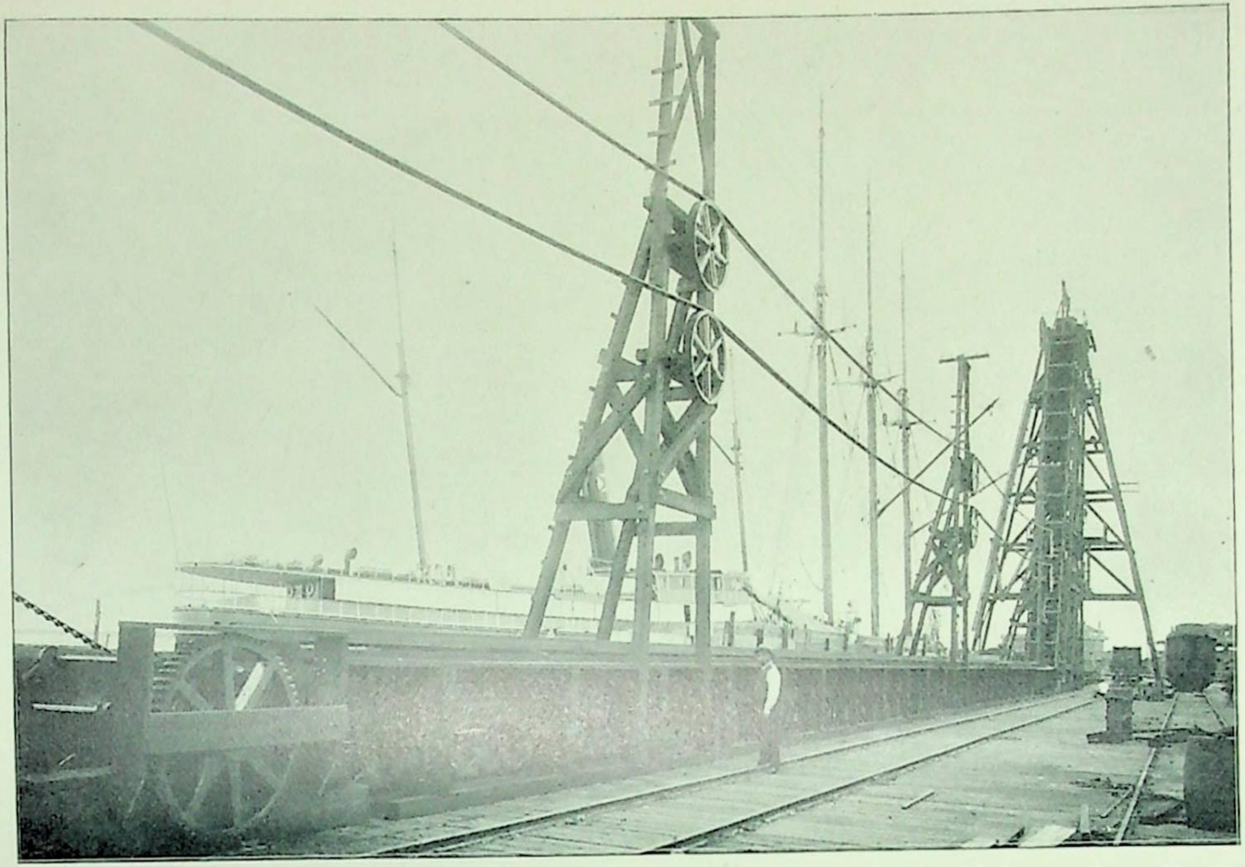
STEAMSHIP FUELING BARGE, MOBILE COAL CO., MOBILE, ALA.

Coal is stored in hold of barge, which is hoppered, discharging same into horizontal Conveyor underneath, running entire length of boat. This Conveyor delivers into inclined Conveyor shown in cut, which discharges the coal through a swinging and telescoping spout directly into bunkers of ship to be coaled. Capacity of Conveyors, 80 tons "run of mine" per hour. For operating, one engineer and two helpers, to control gates and spouts, are required. The method heretofore used required eighteen laborers eighteen hours, wheeling up inclines, to coal the ship with 200 tons. Plant installed 1895.



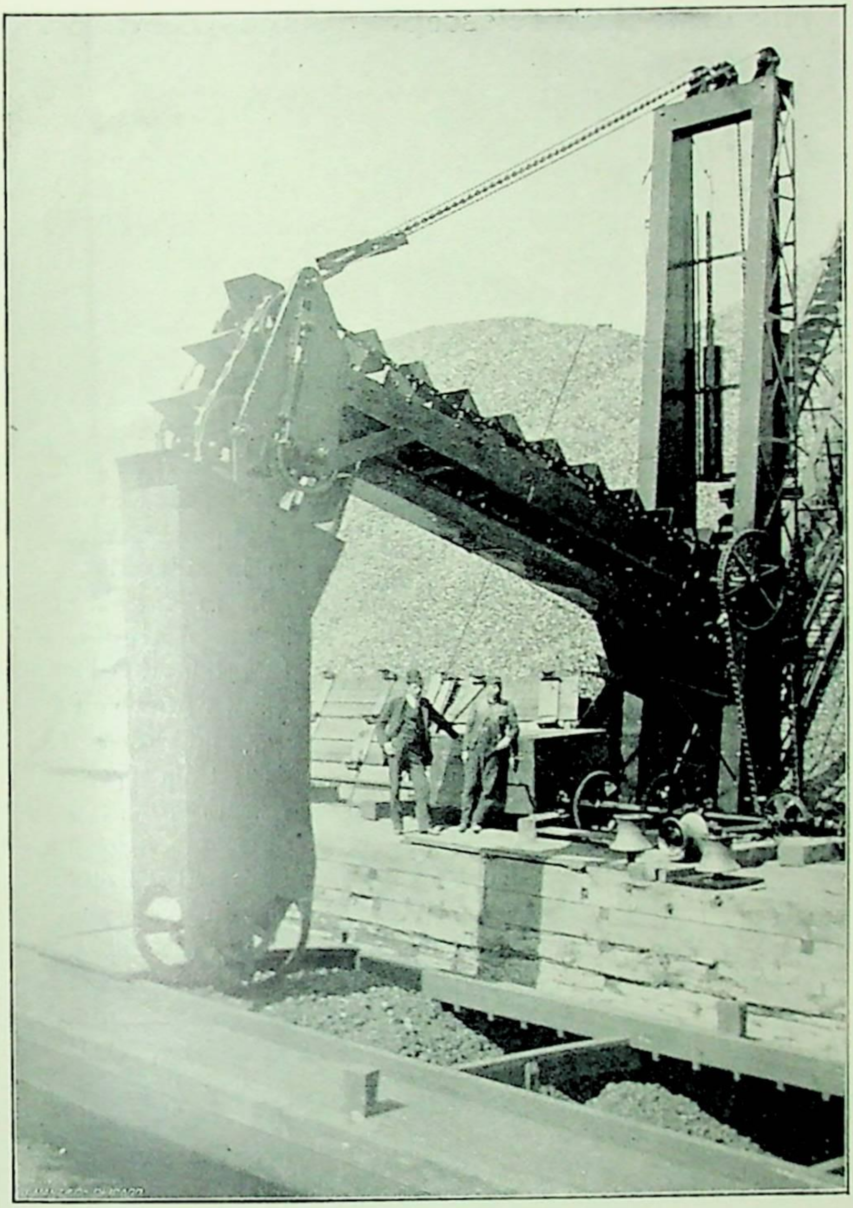
35 TON TRAVELING CRANE

Transferring lumber from flat cars to boat. Crane is provided with heavy hoisting yoke with suspended stirrups which descend over car and engage cross pieces, upon which load (which may be common lumber, cross ties or timbers) is laid, raising same and gently depositing on deck of boat. Time occupied unloading car less than five minutes. View shows load being raised and transferred to deck of boat seen in right. Designed and erected 1897 for the Gulfport & Ship Island R.R., Gulfport, Miss.



PHOSPHATE ROCK HANDLING MACHINERY

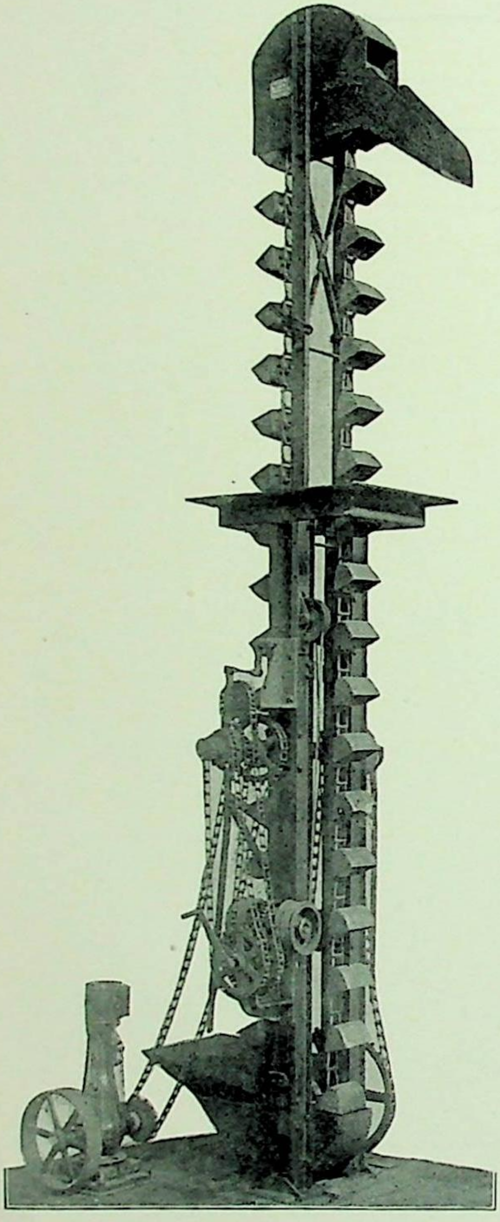
Of "The Plant System," Port Tampa, Fla., for loading phosphate from cars to steamships. Capacity, 6 tons per minute. Power transmitted by Manila rope from one 75 H. P. electric motor.



LITTLE GIANT DOCK LEG ELEVATOR

At Dodge Coal Storage Plant of Delaware & Hudson Canal Co., Rondout, N. Y. All iron construction. Capacity, two tons coal per minute from boats. Buckets, after reaching highest point, enter chute formed by the suspending arm of the apparatus and serve as conveyor flights to slide the coal to foot of trimmer of storage system. This machine has been in regular use since installation, and was recently reported to be in good order and giving entire satisfaction. Erected 1890.

The Link-Belt Telescoping Ashes Elevator.

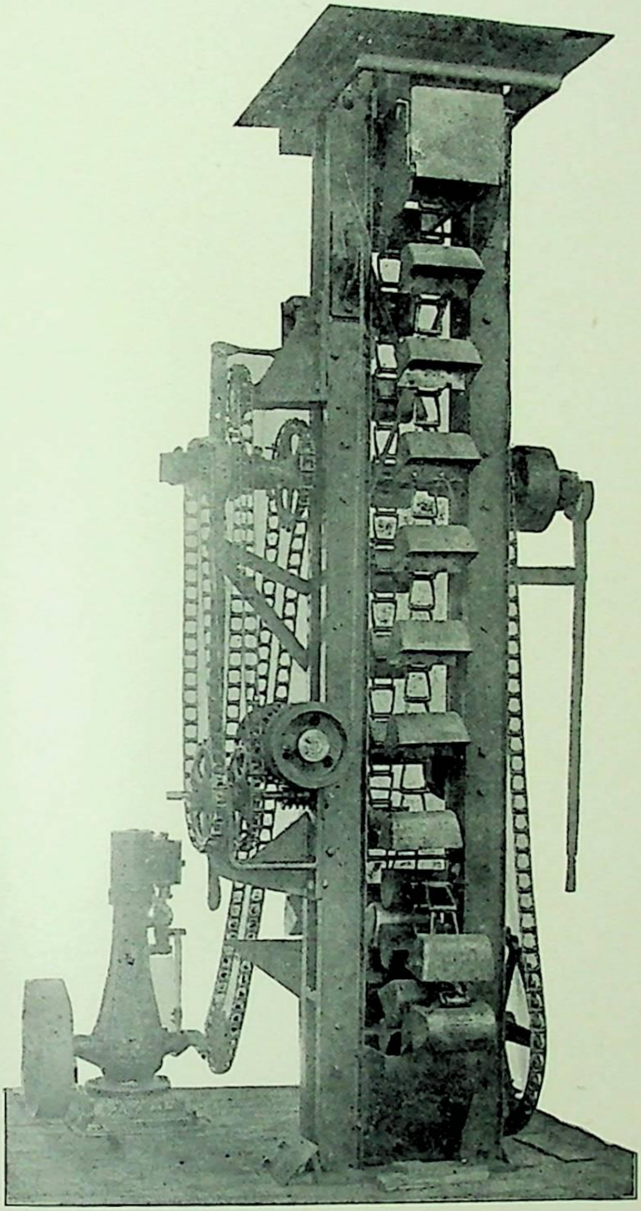


EXTENDED.

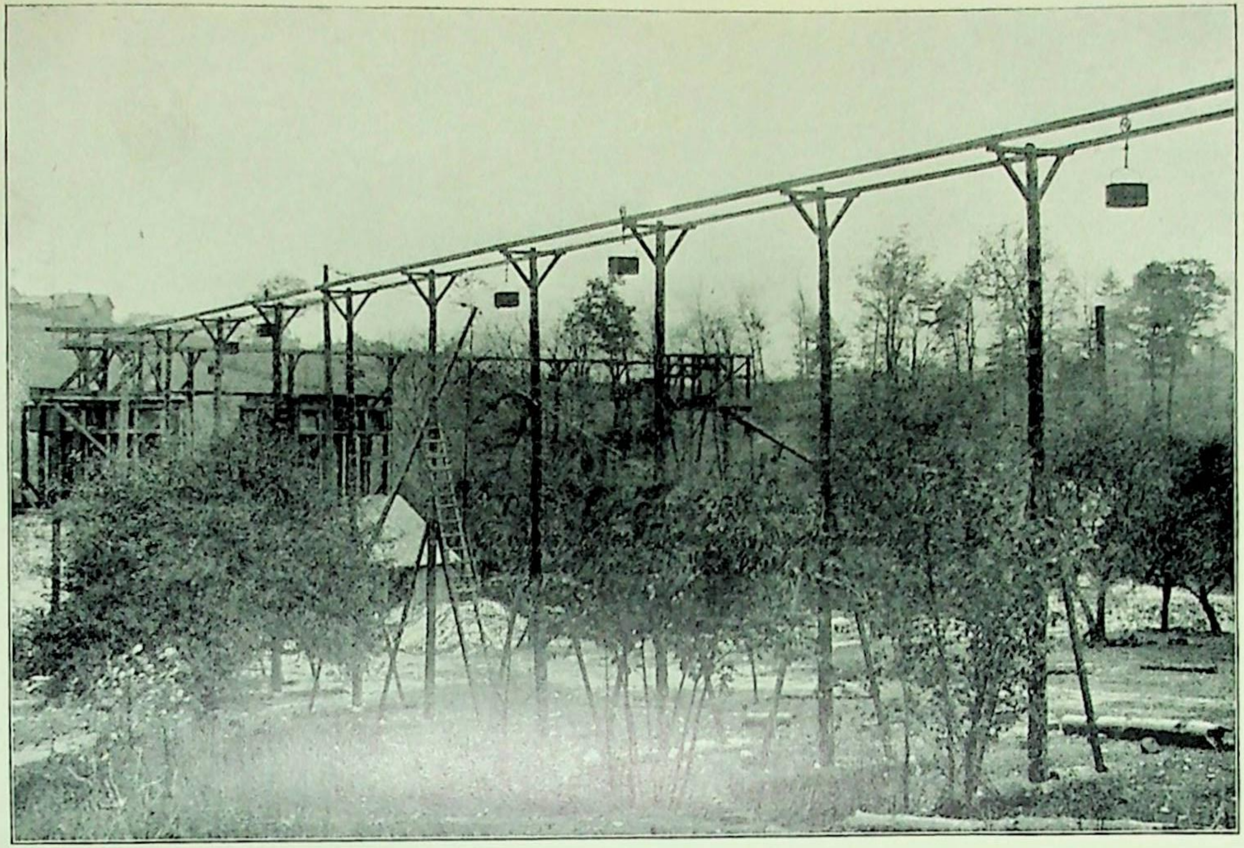
Designed for use in large buildings, where power plant is located below street line, or in basement. The elevator is usually placed beneath the sidewalk, in which is set the cast iron frame with lid, (27¼x34½ in.) as shown.

When it is desired to take up ashes, the elevator is run up by power, through the hole in sidewalk to proper height to discharge into a wagon. After use, the elevator is telescoped by power, as shown in cut on opposite page, and cover of frame closed, thus presenting no obstruction.

This type of elevator, constructed entirely of iron, is now in use by the Leiter Building (Siegel, Cooper & Co. Store), Chamber of Commerce Building, Schiller Building, Unity Building, Chicago; New Galt House, Louisville, Kentucky; Appraisers Warehouse, New York, and others.



THE LINK-BELT TELESCOPING ASHES ELEVATOR.
(Closed.)



ENDLESS ELEVATED TRAMWAY.

We have lines of this railway in operation from 500 feet to five miles in length.

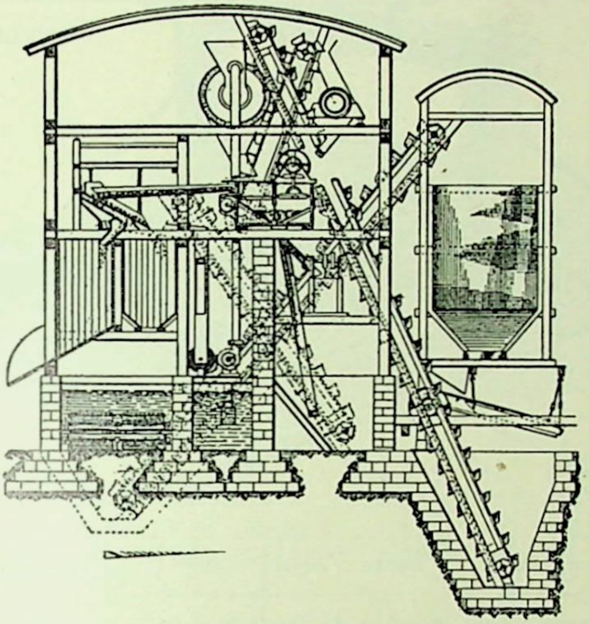
The Trolleys are run on double-headed reversible T Rail. This is far more durable than where they run over wire ropes, which are useless after the first strand is worn through, and the supports, though more frequent, are very much more simple, lighter and readily erected without skilled labor or heavy tools.

The buckets may be loaded and dumped without detaching from line; or they are furnished to dump and right themselves automatically.

We claim for this Carrier lower first cost, and cost of maintenance, greater durability and use of less power than any other similar Carrier or Tramway.

Write for fuller particulars.

Luhrig Patent Coal Washing Machinery.

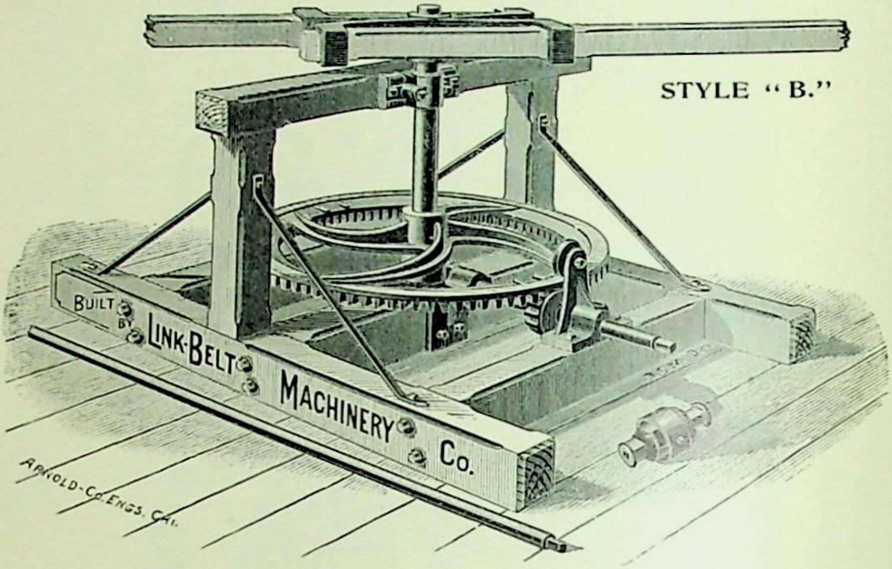


We are the sole manufacturers (under agreement with Cuninghame & Co., Cincinnati, O.) of the Luhrig Patent Machinery for washing and classifying coal. Will examine coal, design and build complete coal washeries for both fuel and coking purposes, fully guaranteeing results. *Send for Special Catalogue.*

"Will you kindly let me know at your first convenience what coal mines, tributary to this market, are using your system of coal washing? We have used washed coal from different washers and find there is great difference in the amount of impurities left in the coal after washing, and presume it is due to the process used. The only satisfaction we have had is from coal washed by the 'Luhrig' system, which we understand you manufacture. We have, therefore, taken this liberty of asking the above information for the reason that when "washed coal" is offered us we are able to tell at once whether or not it is washed so that we can use it." Letter dated Dec. 6, 1897, from E. P. Marsh, Purchasing Agent International Packing Co., U. S. Yards, Chicago.

TWO AND FOUR HORSE

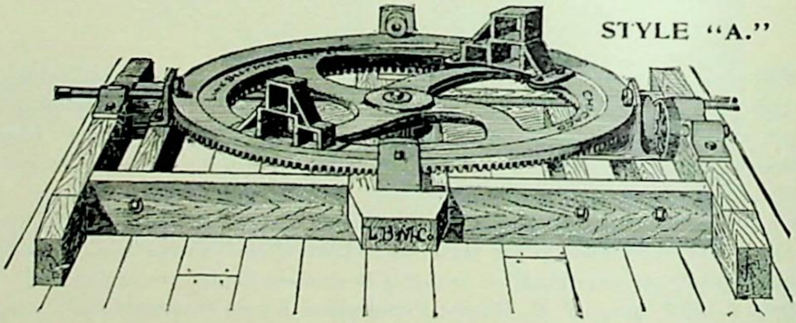
Bevel Gear Power.



STYLE "B."

No.	Description.	Horses.	Style.	Geared to	Revolutions Per Min.	Price.
00	Single Speed Power.	1	B	6 to 1	18	$50 00
0	Single Speed Power.	1 and 2	B	7 to 1	21	80 00
1	Single Speed Power.	1 and 2	A	7 to 1	21	50 00
2	Single Speed Power.	4	A	8⅔ to 1	26	80 00
3	Double Speed Power.	1 and 2	A	20 to 1	60	55 00
4	Double Speed Power.	4	A	24⅔ to 1	74	85 00
5	Triple Speed Power.	1 and 2	A	---------	----	60 00
6	Triple Speed Power.	4	A	---------	----	90 00

Above price includes one Tumbling Rod.



STYLE "A."

The horse-power room should be not less than 26x26 feet in the clear.

The Link-Belt Box Water Elevator (see cut on page 231), has so little friction in the working parts, and the flights fit so closely in the box, that very little more power is required than that which is theoretically necessary for the work of lifting a certain weight of water to a given height in a specified time. When steam power is used, therefore, the STEAM is employed ECONOMICALLY, and to the greatest advantage. Besides this, our smaller elevators can be operated by HORSES, WIND or WATER POWER, if desired. In the following table we refer to STEAM HORSE POWER as a standard for comparisons, but these figures should be multiplied by 1½ to determine the number of ordinary horses required for the work. Our estimate on POWER IS LIBERAL, and on CAPACITIES CONSERVATIVE, so that purchasers can count on the elevators doing all that our circular represents. The CAPACITIES are given in gallons per minute, and are based on a belt-speed of 300 feet per minute. Reduction of speed will decrease capacity proportionally. We do not advise much greater speed than 300 feet per minute. The HORSE-POWERS are based on a 10-FOOT LIFT, and should be multiplied by two for 20 foot or three for 30 foot elevators. The prices include wood and iron work for elevators complete. If desired, we will submit estimate for driving machinery on receipt of information as to speed of driving shaft and its distance from elevator head shaft. In ordering, give NUMBER of elevator, as noted in table, state the number of GALLONS you wish to handle per minute, and give desired LENGTH between head and foot shafts.

PRICE LIST.

Number of Elevator.	Gallons per Minute.	Steam Horse Power for 10 foot lift.	Price of Elevator Complete with Wood Work but without Driving Machinery.				
			10 ft.	15 ft.	20 ft.	25 ft.	30 ft.
1	300	1	$53.00	$61.00	$69.00	$77.00	$85.00
2	600	2	73.00	84.00	95.00	106.00	117.00
3	700	2½	81.00	93.00	105.00	117.00	129.00
4	900	3	114.00	128.00	142.00	156.00	170.00
5	1,100	3½	121.00	136.50	152.00	167.50	183.00
6	1,500	4½	174.00	197.50	221.00	244.50	268.00
7	2,200	7	193.00	220.00	247.00	274.00	301.00

Prices on Larger Elevators, or on Machinery portion alone, furnished on application.

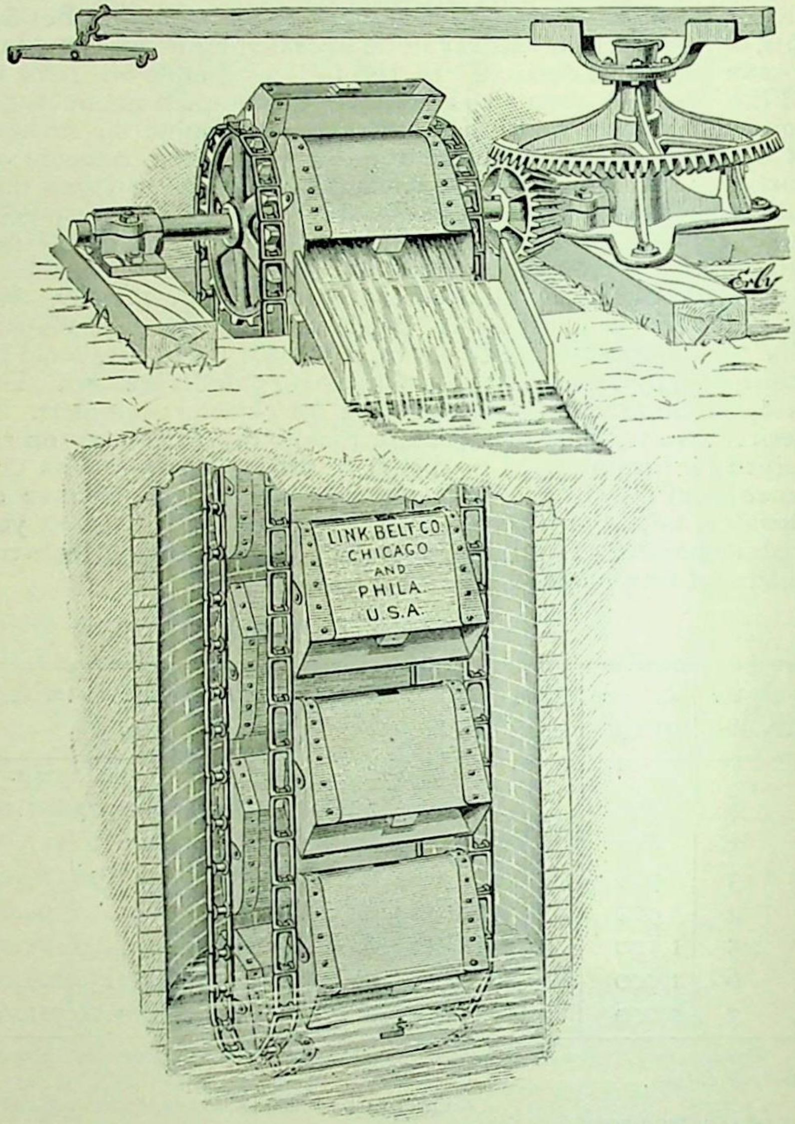
CHEWELAH, STEVENS CO., WASH., December 14, 1894.

LINK-BELT MACHINERY CO., Chicago.

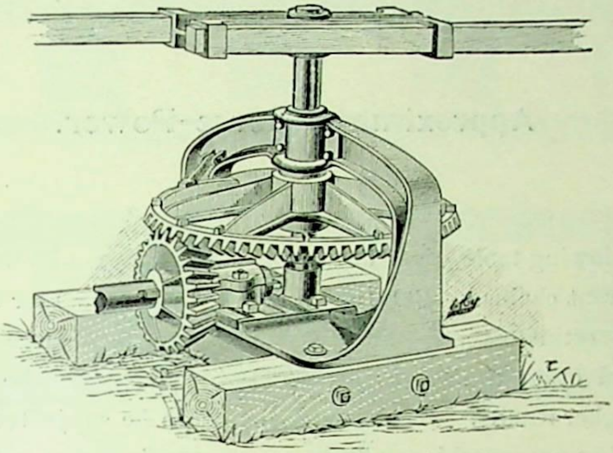
Gentlemen:—Some time ago I purchased one of your Elevators for hoisting water 10 feet, and will say that it works to my satisfaction, and raises water very easy. I irrigated clay land that had been worked for 25 years. I sowed it to timothy and clover, and I cut a crop off the land the first year. I also irrigated my wheat and oats. My oats went 50 bushels to the acre, even after the land had been farmed for 25 years. Next year I expect to raise more yet. Two or three of my neighbors say they are going to have one of the machines to water their farms. One of your Elevators would pay in ten acres of land.

Very truly yours, GEO. A. MOWATT.

The "Noria" Water Elevator.



ARCH POWER.



The Noria Elevator illustrated on preceding page was originally designed for lifting water from wells for irrigating purposes, but is found very useful in any case where it is desired to raise water from a depth not exceeding 40 or 50 feet. It is principally used, however, in wells having an average depth of 25 feet. The cuts on pages 172 and 173 show two forms of powers, one of which we call the *Tripod Power*, commonly used with one horse, and the other the *Arch Power*, for two horses. The entire frame work of each being made of cast iron makes them practically indestructible in any climate. The buckets are made of steel, carefully galvanized after riveting, thus insuring tight joints and avoiding leakage. Their shape is such that the water is *poured* from them in passing over the head wheel with a minimum amount of wastage. The syphon in each bucket gives opportunity for air to pass in and out without interfering with the discharge or receipt of the water, and our chain, from its detachable feature, affords a ready means of lengthening or shortening the Elevator at will.

SPECIAL BUCKETS FOR WATER ELEVATORS.

SIZE.	CAPACITY.	SIZE.	CAPACITY.
18x7	3¾ Gallons.	24x7	5¼ Gallons.

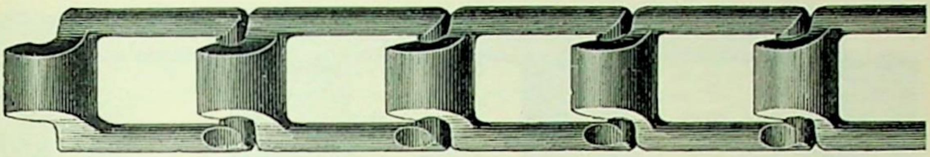
Ewart Detachable Link-Belting

Approximate Horse-Power.

The following table gives the Approximate Horse-Power transmitted by the different chains at 100–1000 feet per minute, under average conditions. The estimates are conservatively made. Where resistance is uniform, and other conditions are favorable, it would be quite safe to figure on higher results. If, however, the chain be subjected to shocks, or there are other unfavorable conditions, proper allowance must be made.

	SPEED IN FEET PER MINUTE.									
Size.	100	200	300	400	500	600	700	800	900	1000
25	.20	.40	.60	.80	1.00	1.20	1.35	1.50	1.65	1.75
32	.35	.70	1.00	1.30	1.60	1.90	2.20	2.50	2.75	3.00
33	.40	.80	1.20	1.60	2.00	2.30	2.60	2.90	3.20	3.50
34 **35**	.45	.90	1.35	1.80	2.20	2.60	3.00	3.40	3.70	4.00
42	.50	1.00	1.50	2.00	2.50	2.90	3.30	3.70	4.10	4.50
45	.55	1.10	1.65	2.20	2.70	3.20	3.60	4.00	4.40	4.80
51	.50	1.00	1.50	2.00	2.50	2.90	3.30	3.70	4.10	4.50
52	.80	1.60	2.40	3.20	3.90	4.60	5.20	5.80	6.40	7.00
55	.75	1.50	2.25	3.00	3.75	4.40	5.00	5.50	6.00	6.50
57	1.00	2.00	3.00	4.00	4.70	5.40	6.10	6.80	7.40	8.00
62	1.00	2.00	3.00	4.00	4.70	5.40	6.10	6.80	7.40	8.00
66	1.20	2.40	3.60	4.80	5.80	6.70	7.60	8.30	8.90	9.50
67	1.30	2.60	3.90	5.20	6.30	7.30	8.20	9.00	9.80	10.50
75	1.40	2.80	4.20	5.60	6.70	7.70	8.70	9.60	10.50	11.40
77	1.50	3.00	4.50	6.00	7.25	8.50	9.50	10.50	11.25	12.00
78	1.75	3.50	5.25	7.00	8.50	9.75	11.00	12.00	13.00	14.00
88	2.00	4.00	6.00	8.00	9.75	11.25	12.75	14.00	15.00	16.00
103	3.50	7.00	10.00	12.50	15.00	17.00	19.00	20.50	22.00	23.00
114	4.00	8.00	12.00	15.00	17.00	19.00	21.00	23.00	25.00	27.00
124	4.50	9.00	13.50	17.00	20.00	22.00	24.00	26.00	28.00	30.00

Original Ewart Detachable Link-Belting.



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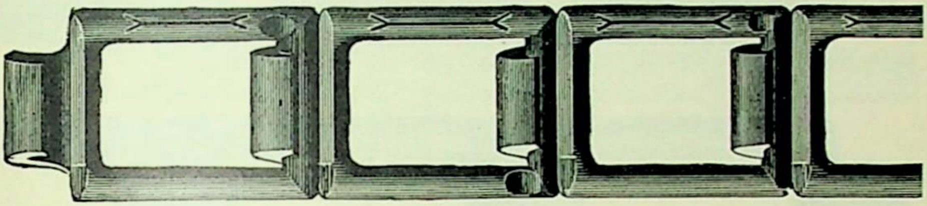

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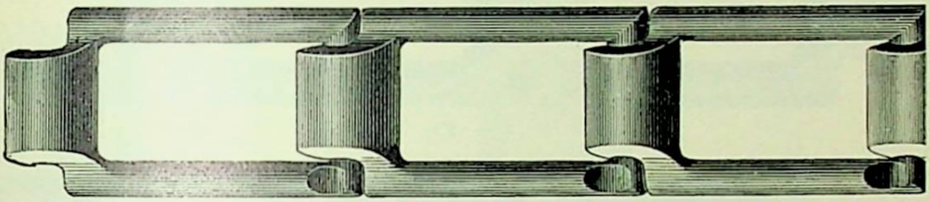

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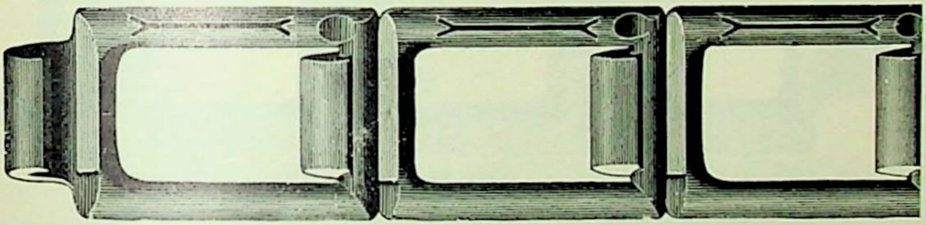

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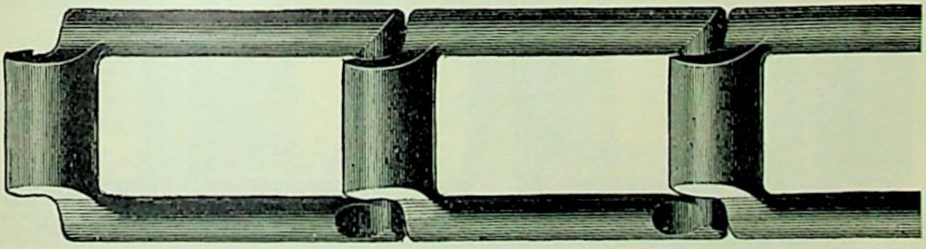
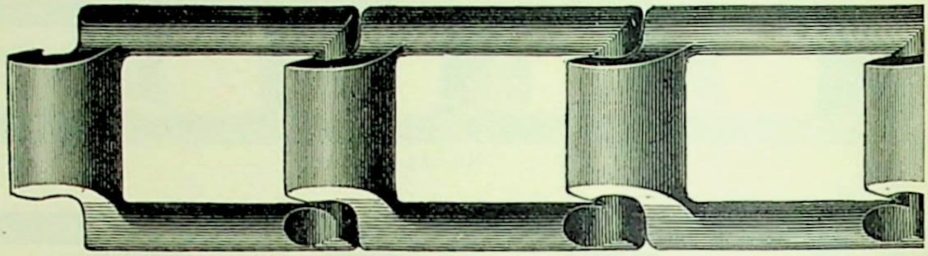


No. 35.

For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting—Continued.



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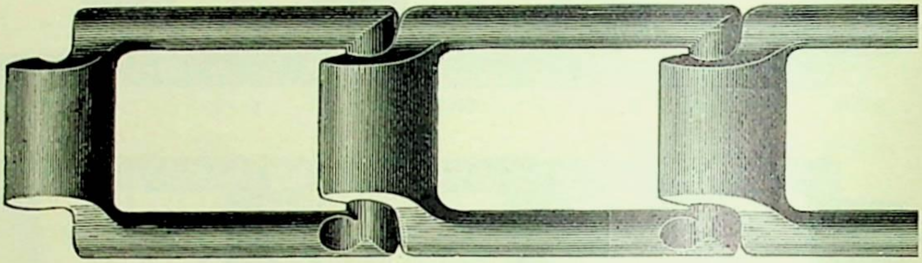

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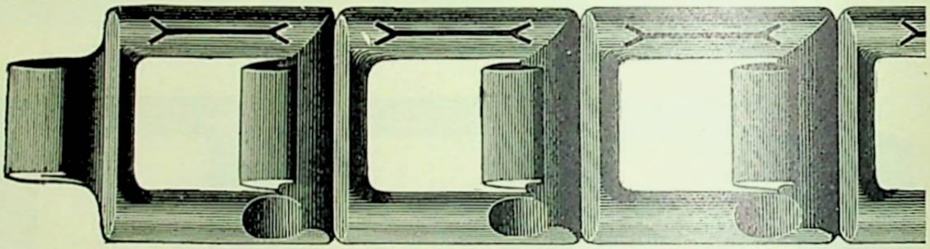

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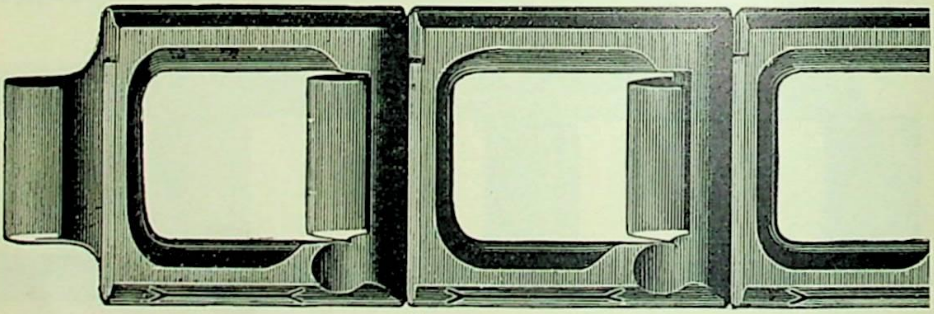
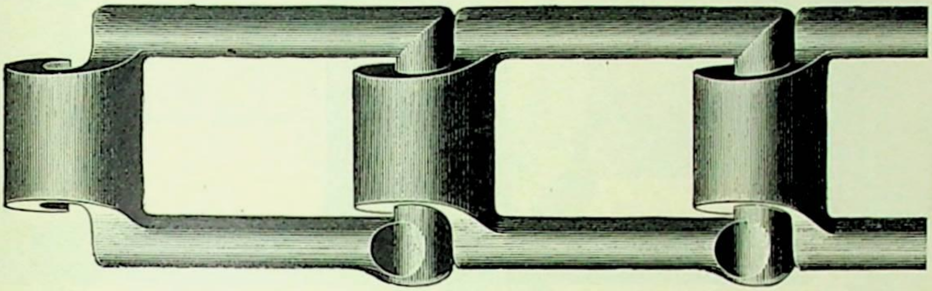


No. 52.

For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting—Continued.



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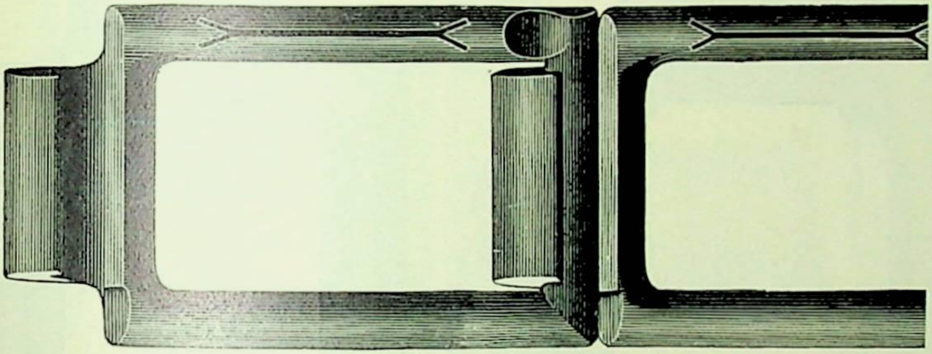

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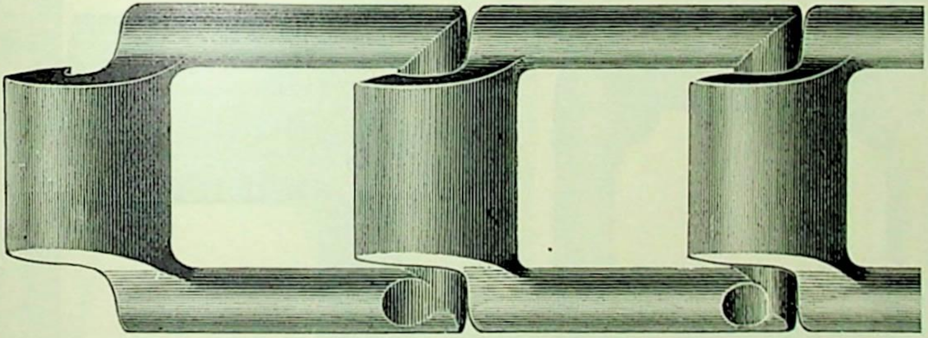
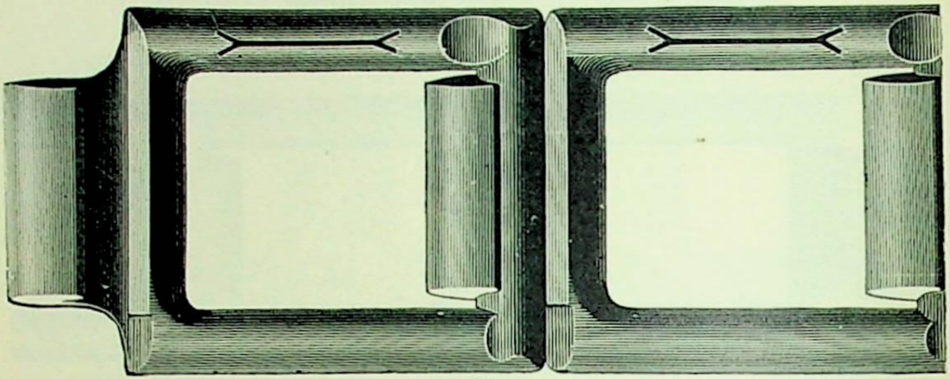


No. 62.

For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting.—CONTINUED.



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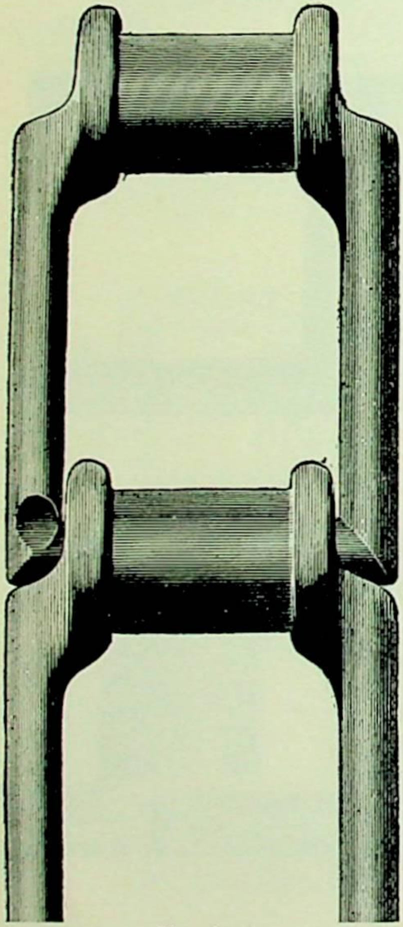

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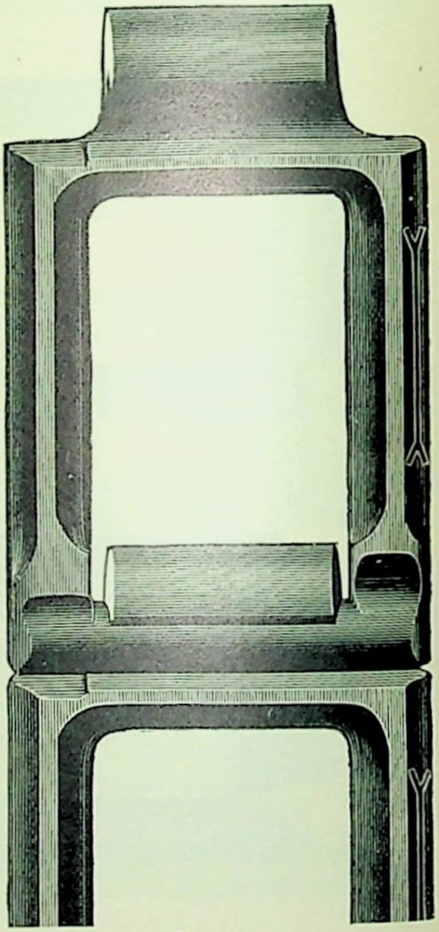
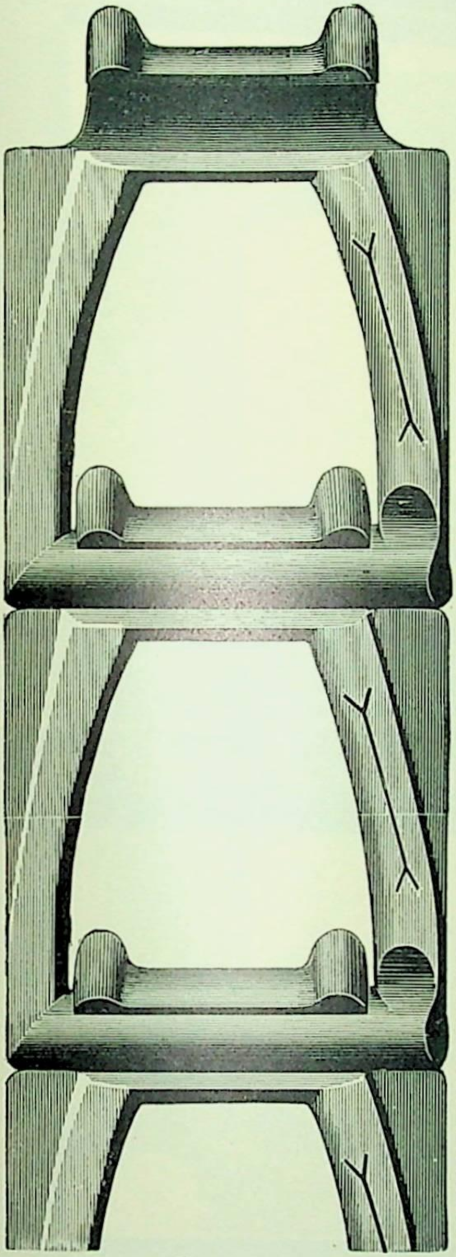


No. 75.

For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting.—CONTINUED.



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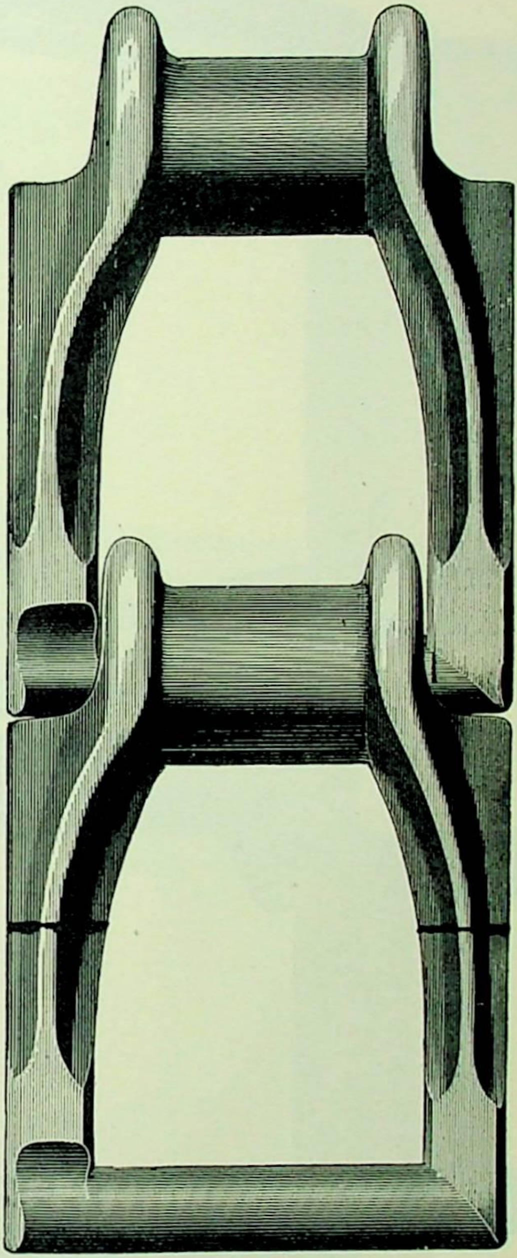
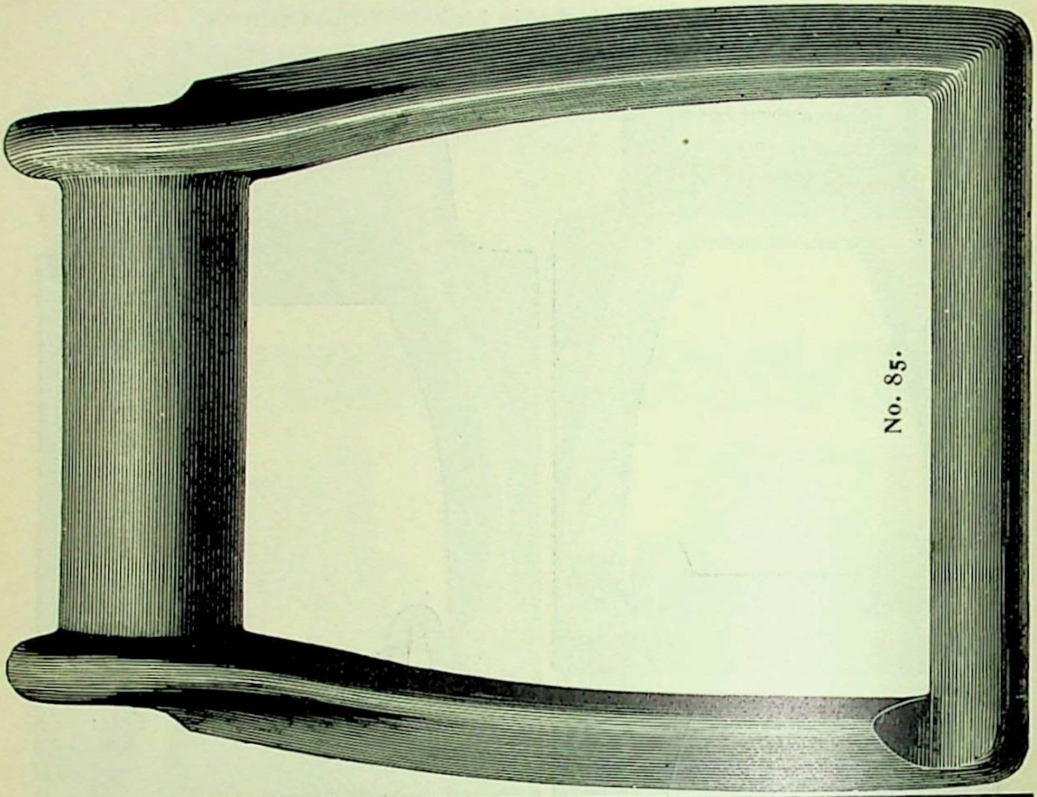
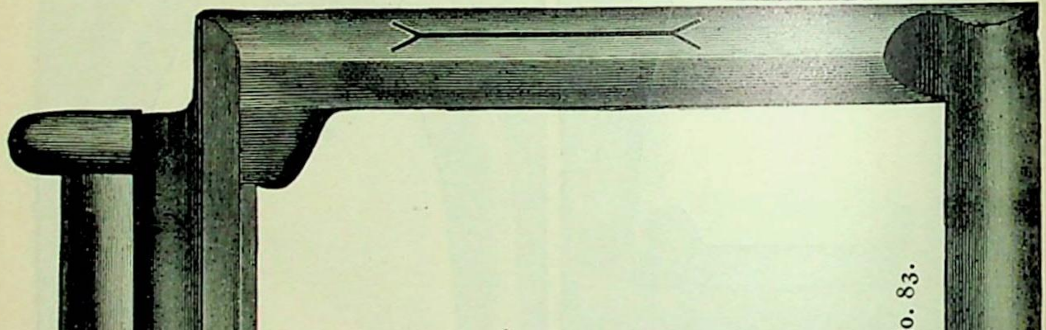


No. 78.

For prices, and list of attachments for each chain, see pages 194 and 195.

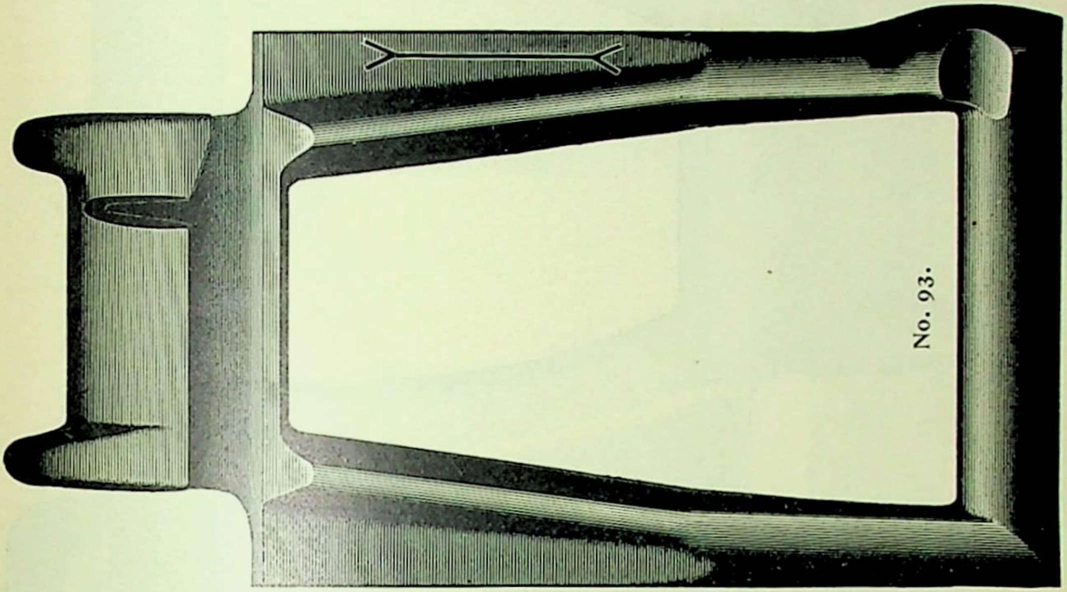
Original Ewart Detachable Link-Belting—Continued.





For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting—CONTINUED.



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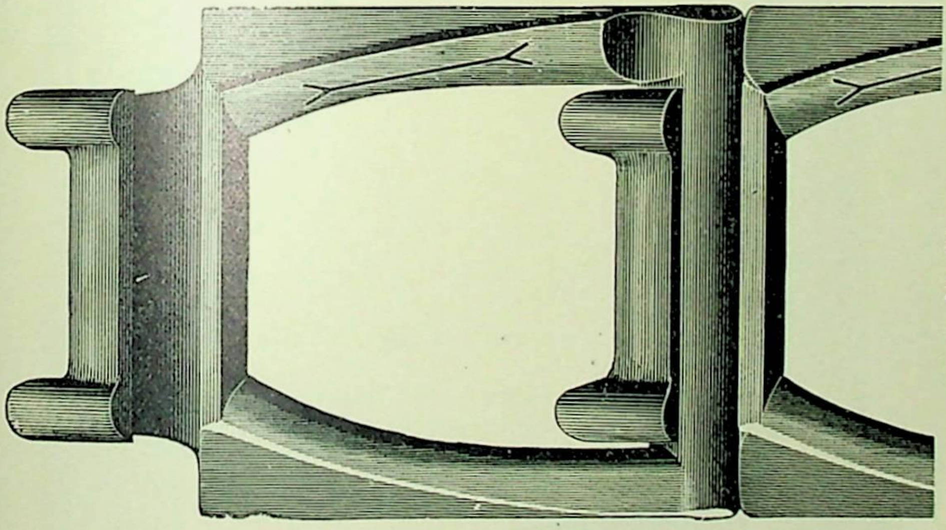
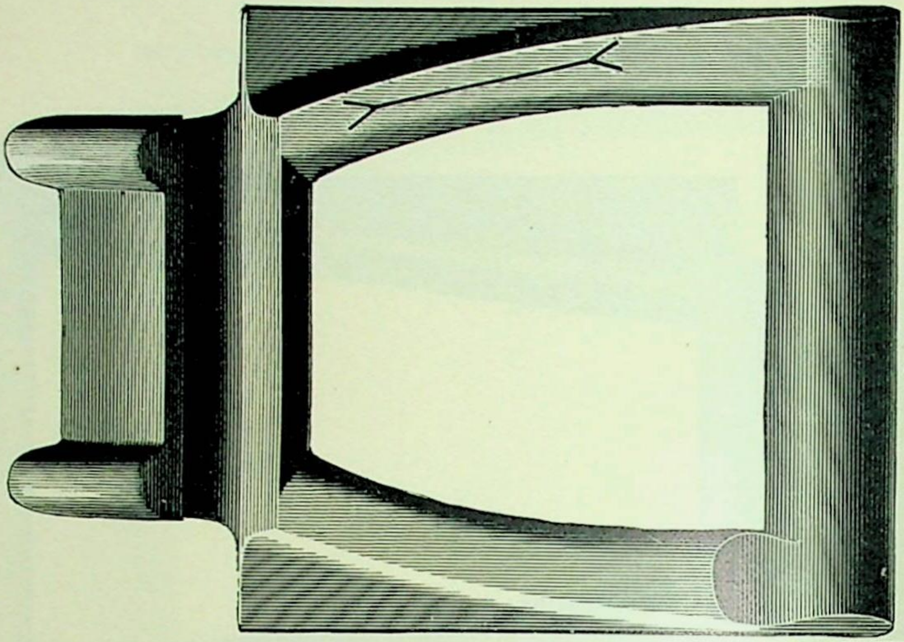


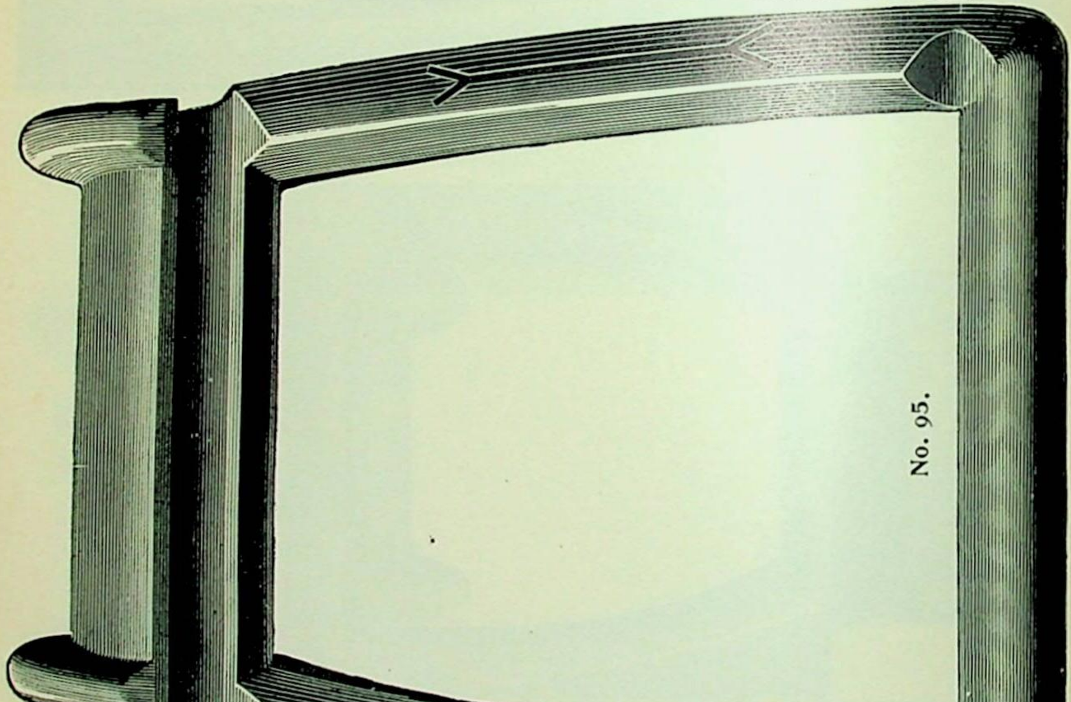
No. 88.

For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting—CONTINUED.



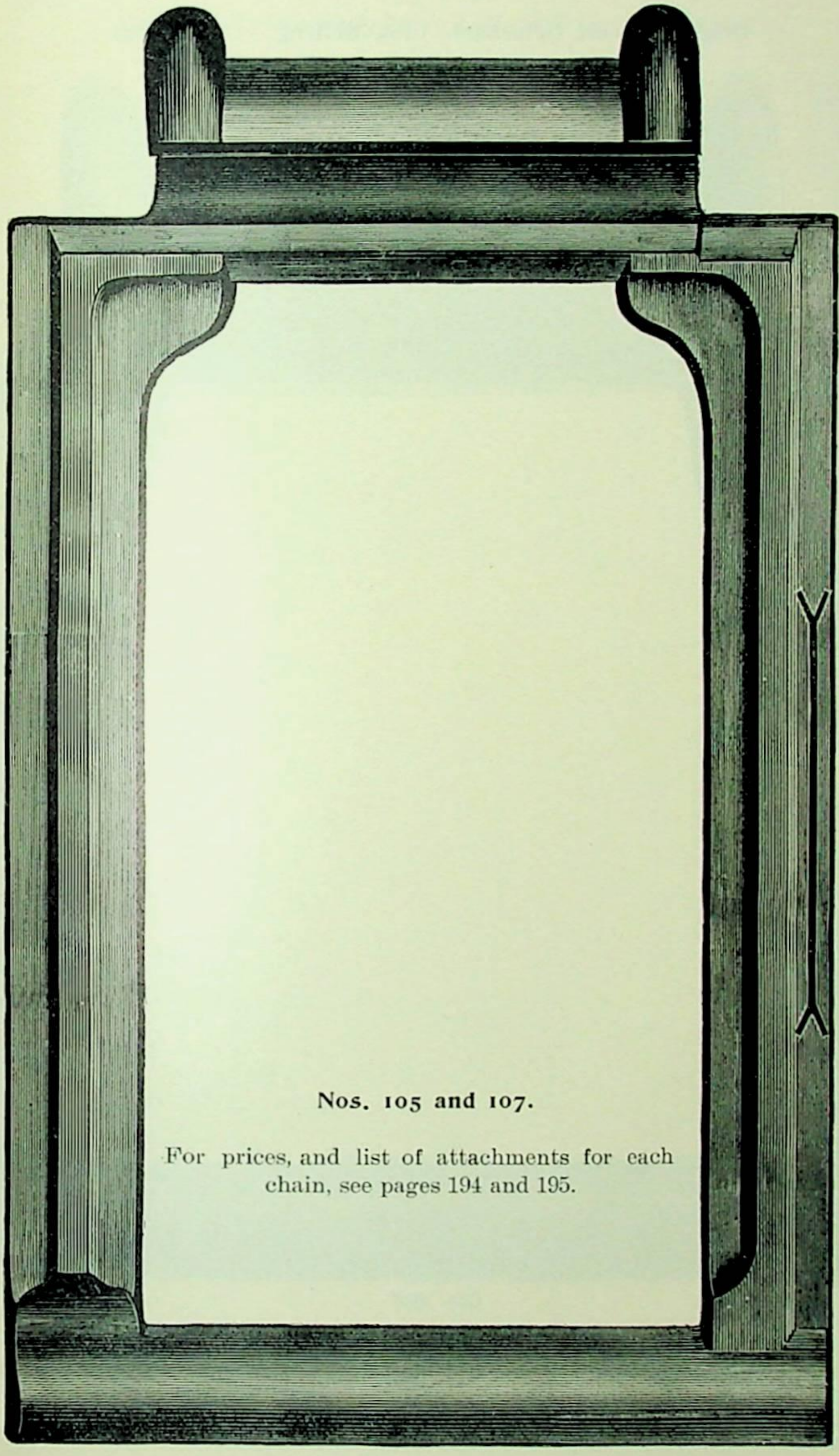
No. 103.



No. 95.

For prices, and list of attachments for each chain, see pages 194 and 195.

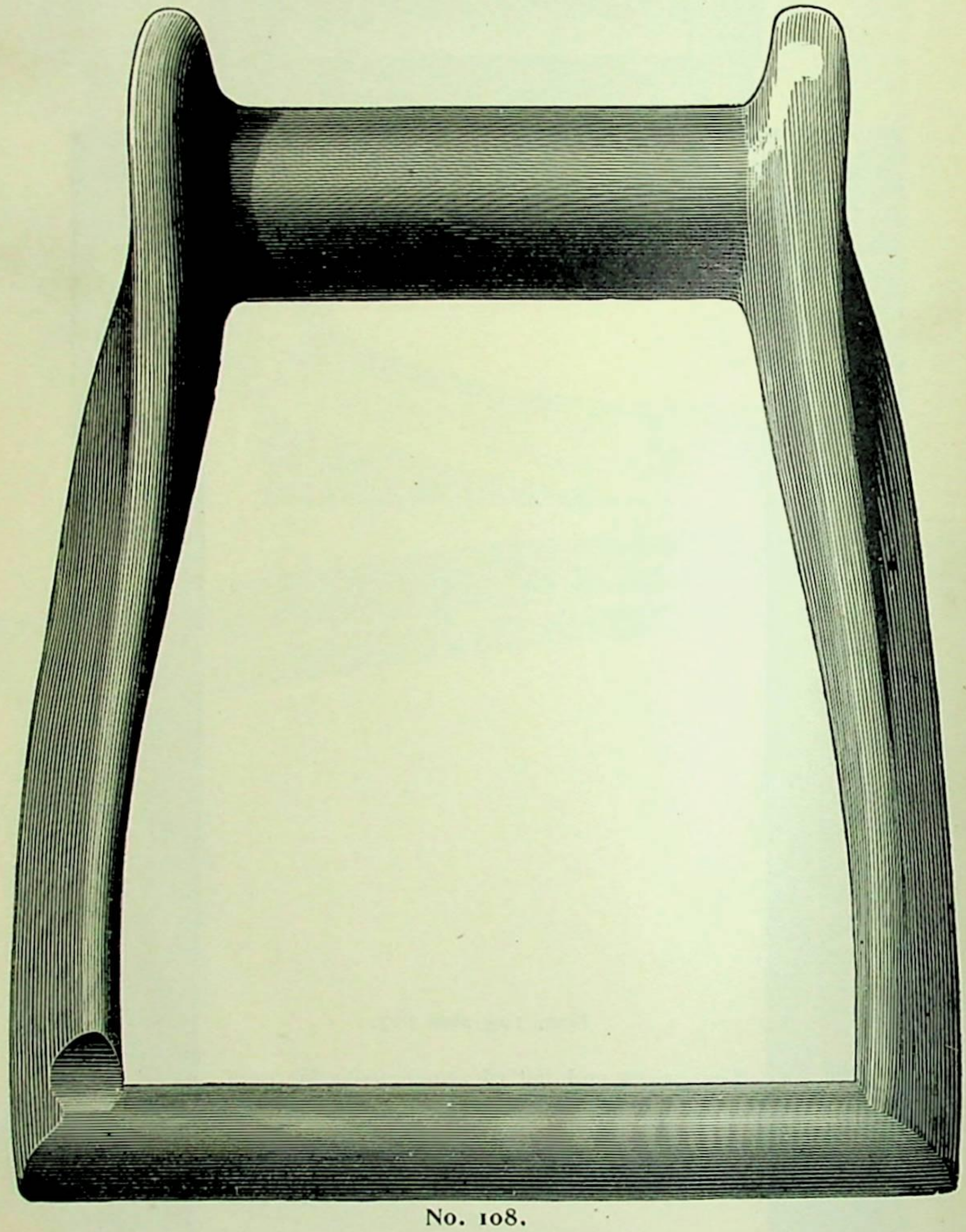
Original Ewart Detachable Link-Belting.—Continued.



Nos. 105 and 107.

For prices, and list of attachments for each chain, see pages 194 and 195.

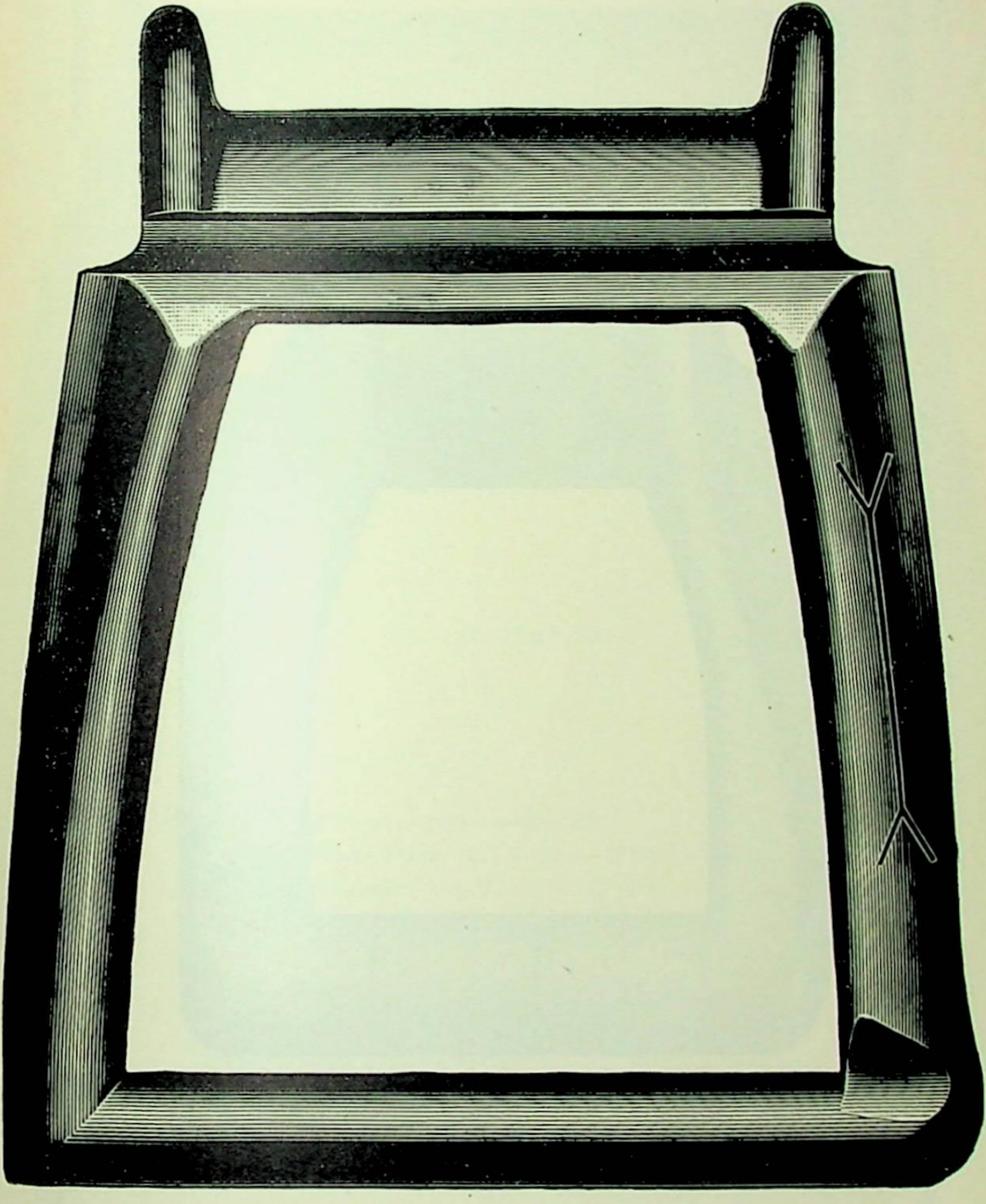
Original Ewart Detachable Link-Belting.—CONTINUED.



No. 108.

For prices, and list of attachments for each chain, see pages 194 and 195.

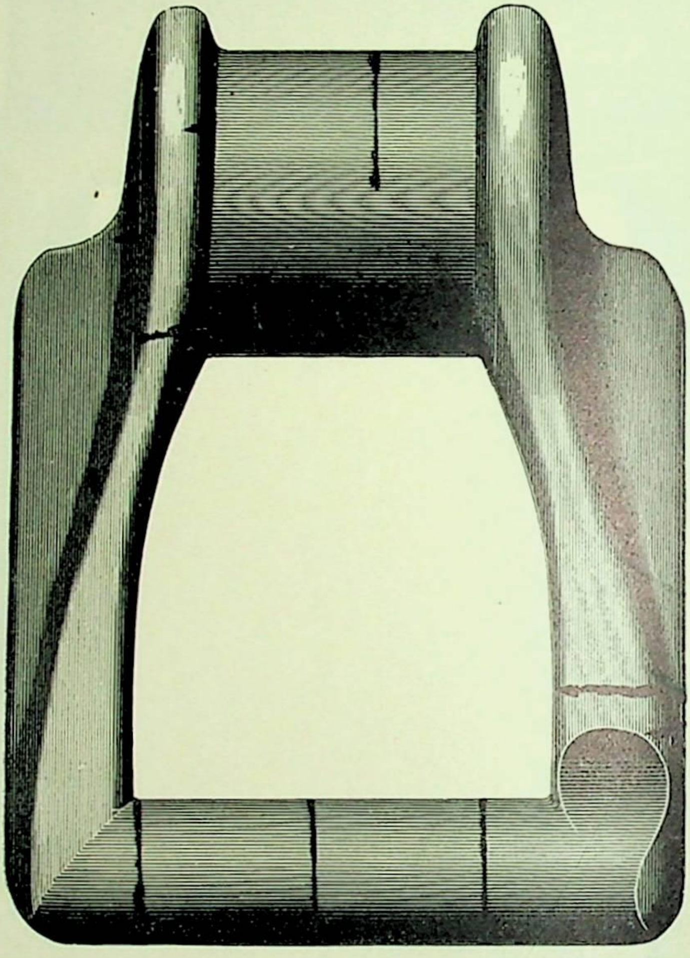
Original Ewart Detachable Link-Belting—CONTINUED.



No. 110.

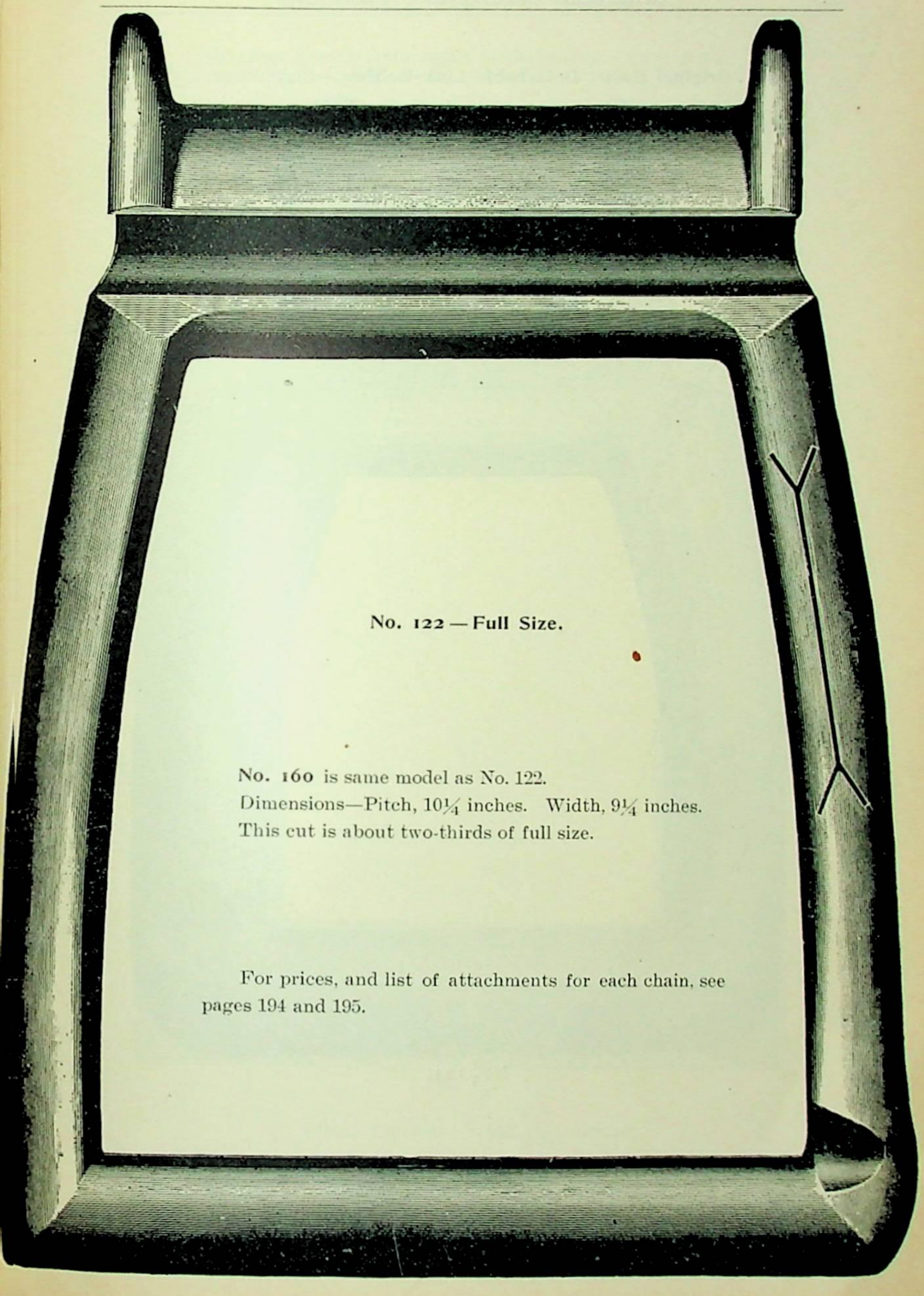
For prices, and list of attachments for each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting—Continued.



No. 114.

For prices, and list of attachments for each chain, see pages 194 and 195.

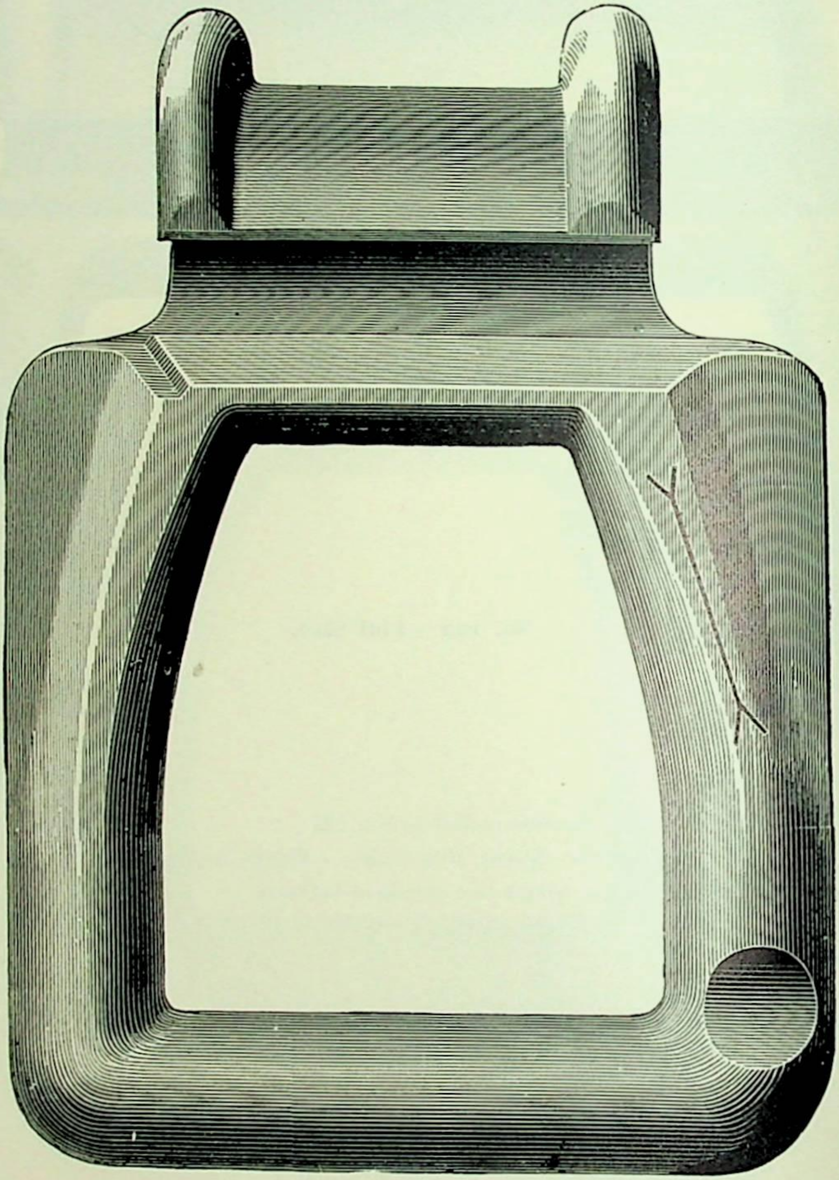


No. 122 — Full Size.

No. 160 is same model as No. 122.
Dimensions—Pitch, 10¼ inches. Width, 9¼ inches.
This cut is about two-thirds of full size.

For prices, and list of attachments for each chain, see pages 194 and 195.

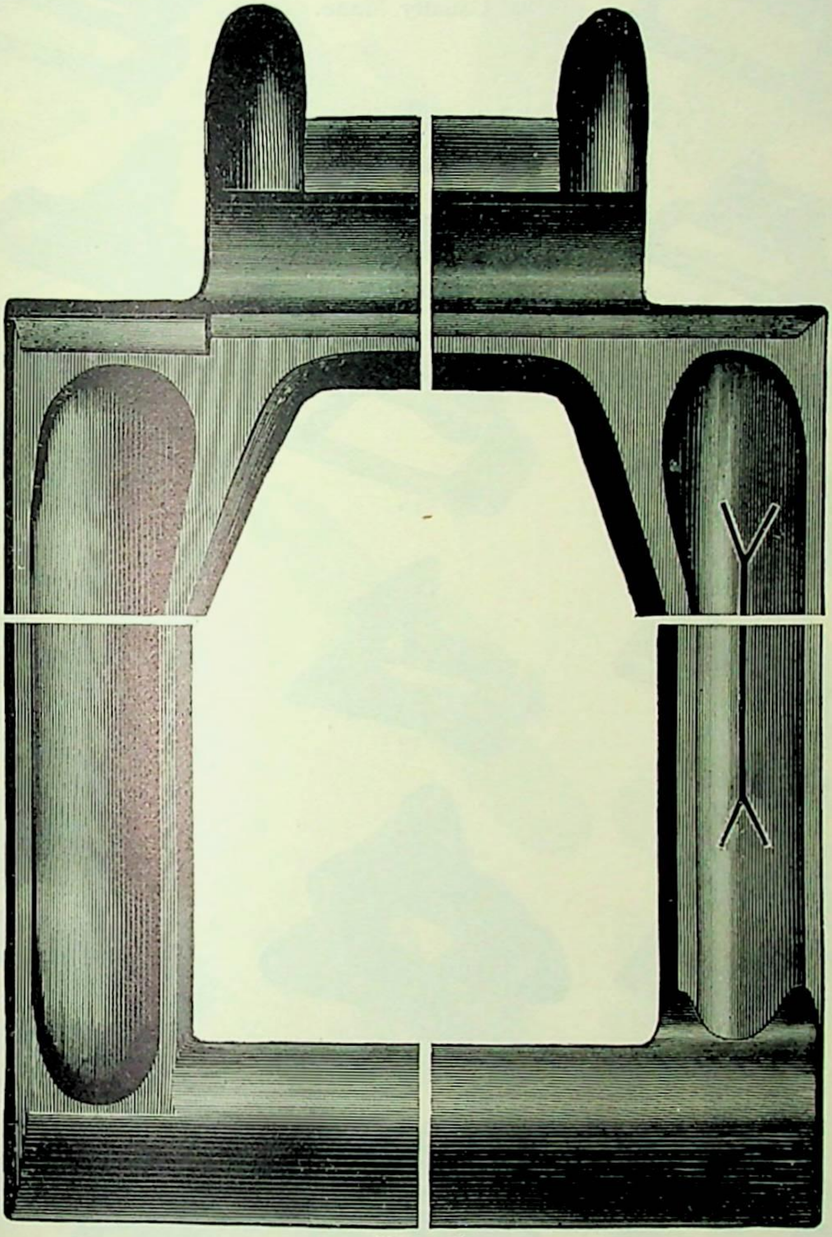
Original Ewart Detachable Link-Belting.—CONTINUED.



No. 124.

For prices, and list of attachments of each chain, see pages 194 and 195.

Original Ewart Detachable Link-Belting.—CONTINUED.



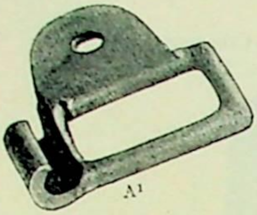
No. 146.

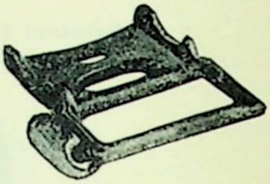
Pitch, 6 inches. Width, 5¼ inches.

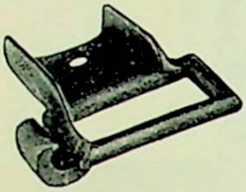
For prices, and list of attachments of each chain, see pages 194 and 195.

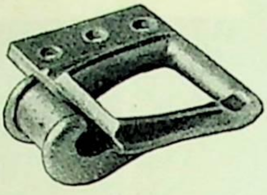
Attachments—

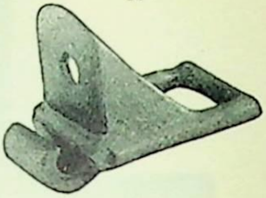
As Usually Made.

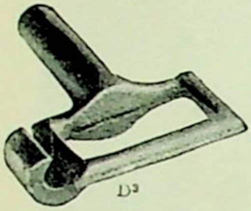

A^1

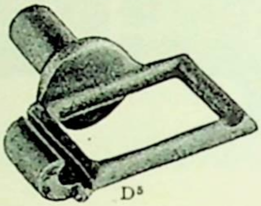

A^2

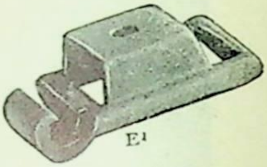

A^3

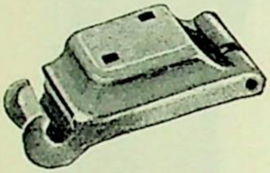

A^{11}

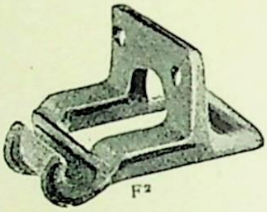

C^1

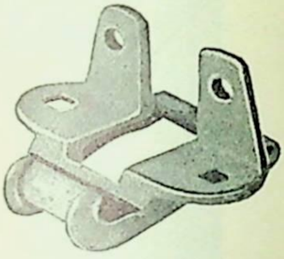

D^3

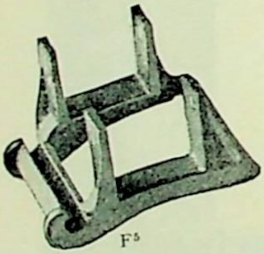

D^5

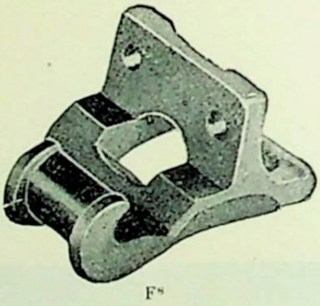

E^1

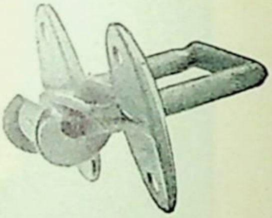

E^2

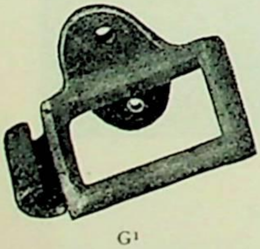

F^2

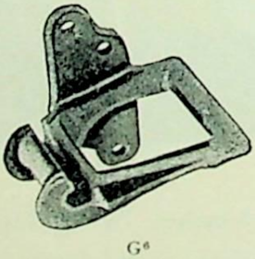

F^4

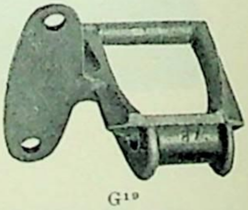

F^5


F^8

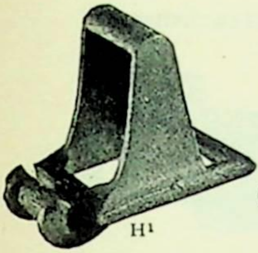

FF


G^1

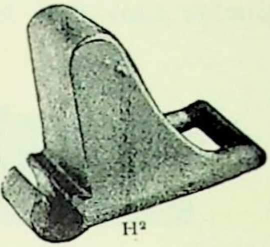

G^6


G^{19}

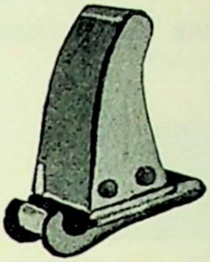
For list of attachments made on each size of Link-Belting, see page 195.



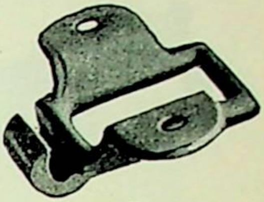
H^1



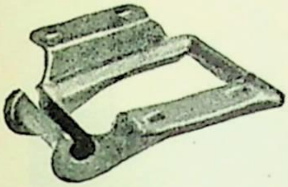
H^2



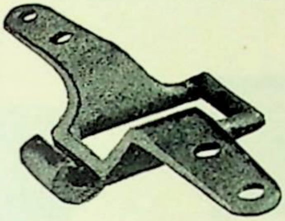
H^6



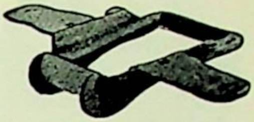
K^1



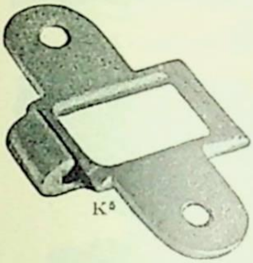
K^2



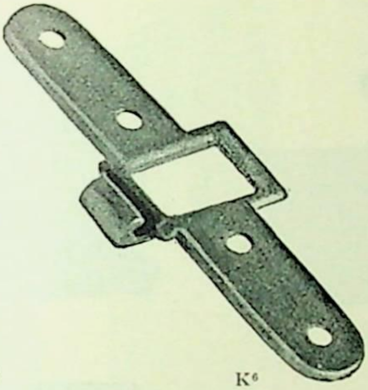
K^3



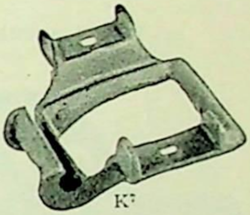
K^4



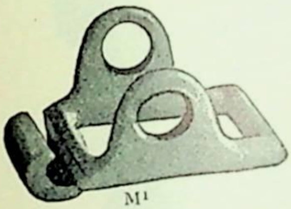
K^5



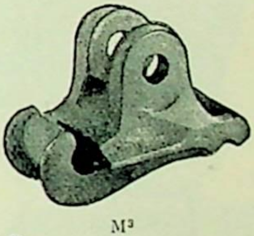
K^6



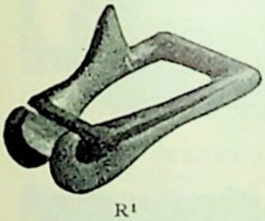
K^7



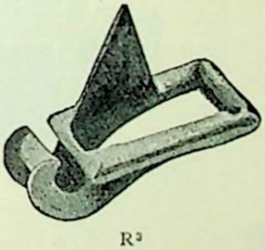
M^1



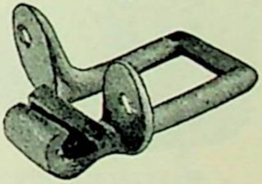
M^3



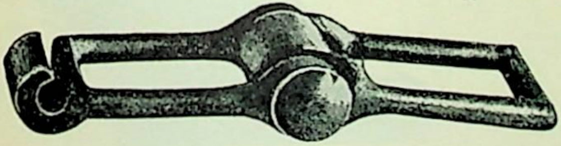
R^1



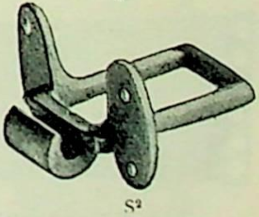
R^3



S^1



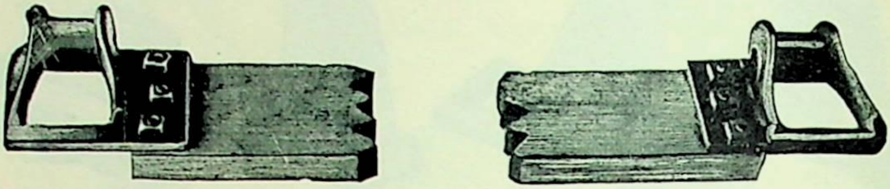
COUPLING LINKS



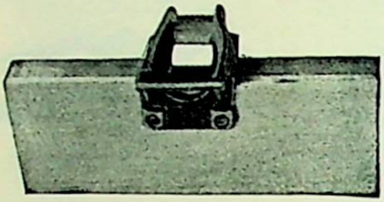
S^2

For list of attachments made on each size of Link-Belting, see page 195.

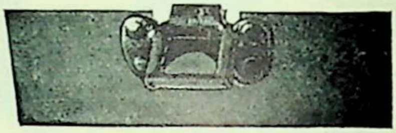
Method of Using Ewart Detachable Link-Belt Attachments



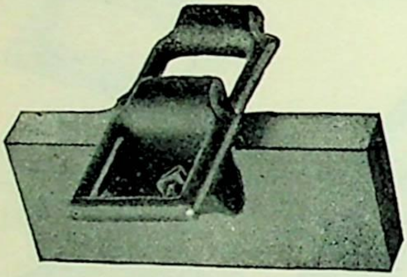
A ATTACHMENTS



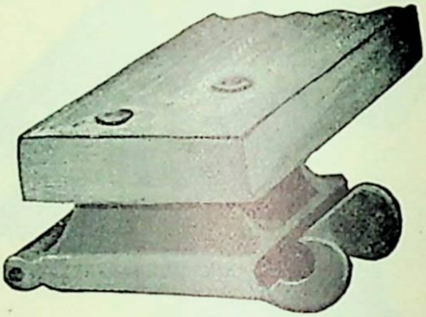
F^2 ATTACHMENT



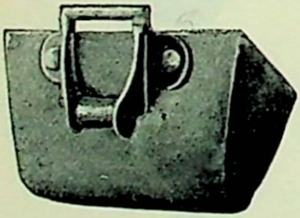
S^2 ATTACHMENT



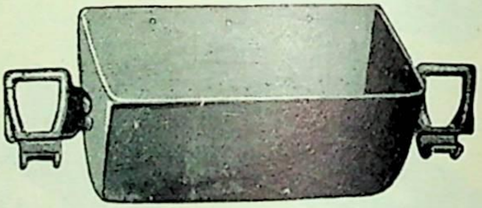
C^1 ATTACHMENT



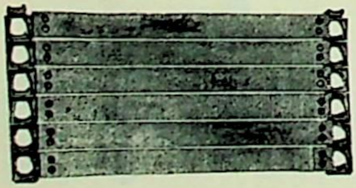
E ATTACHMENTS



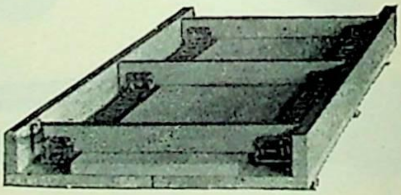
K ATTACHMENTS



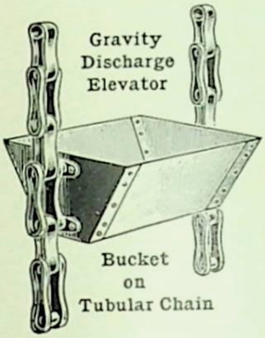
G ATTACHMENTS



APRON CONVEYOR

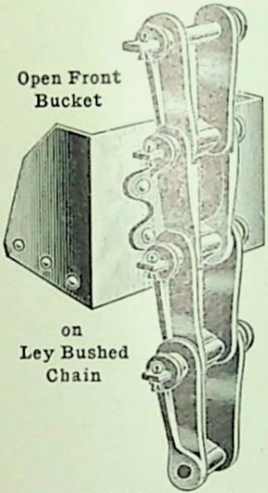


DOUBLE STRAND FLIGHT CONVEYOR

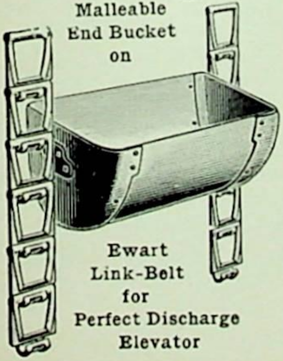


Gravity Discharge Elevator

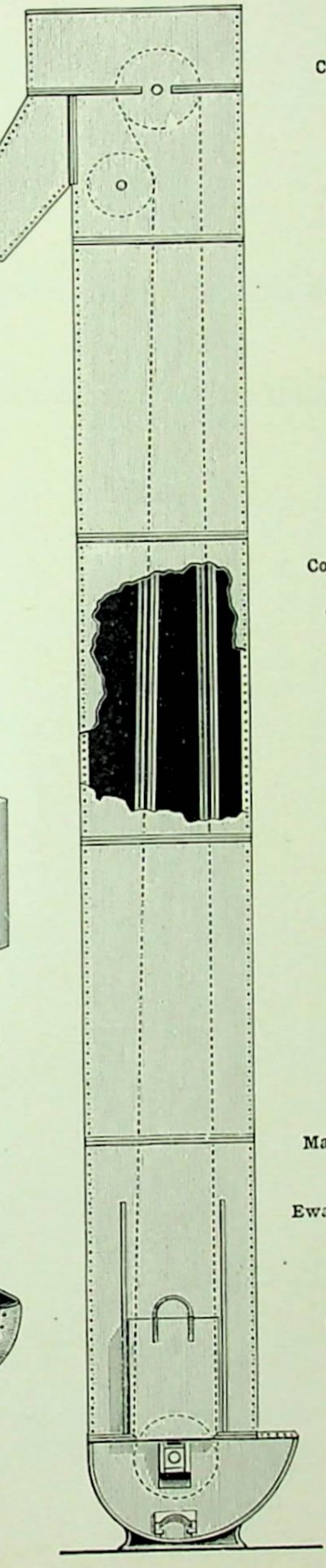
Bucket on Tubular Chain

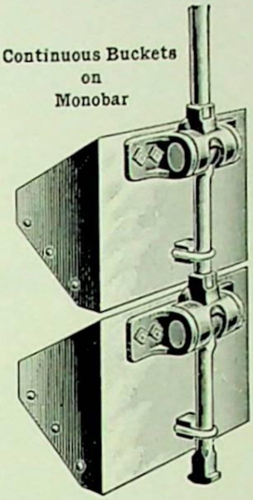


Open Front Bucket on Ley Bushed Chain

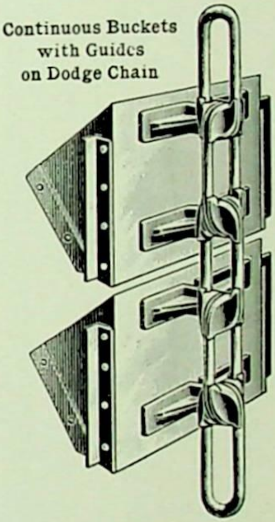


Malleable End Bucket on Ewart Link-Belt for Perfect Discharge Elevator

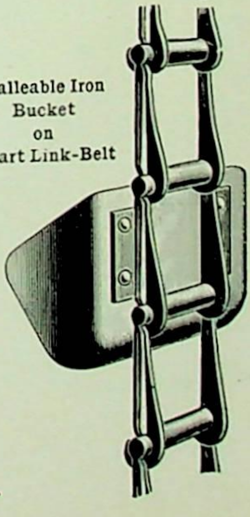




Continuous Buckets on Monobar

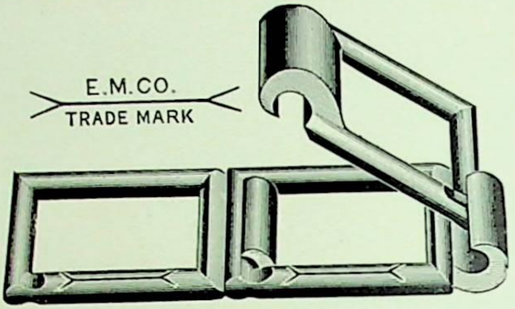


Continuous Buckets with Guides on Dodge Chain



Malleable Iron Bucket on Ewart Link-Belt

PRICE LIST
OF THE
Original Ewart Detachable Link=Belting.



No.	PRICE PER FOOT.			Links Per Foot.	Working Strain.	Approximate in Leather Belting.
	All Plain Links.	All Attachment Links.	With Attach'ts at Intervals.			
25	$0 08	$0 19	$0 11	13.3	75 lbs.	1 in. single
32	08	17	11	10.4	150 "	1½" "
33	07	17	10	8 6	200 "	2 " "
34	08	17	11	8.6	225 "	2½" "
35	08	17	11	7.4	250 "	2½" "
42	09	18	12	8.8	300 "	3 " "
45	09	18	12	7.4	350 "	3½" "
51	11	20	14	10.4	375 "	3½" "
52	12	20	14	8.	500 "	4 " "
55	12	18	13	7.4	450 "	4 " "
57	12	24	16	5.2	600 "	6 " "
62	16	27	20	7.3	650 "	6½" "
66	16	27	20	6.	700 "	6½" "
67	16	27	20	5.2	700 "	7 " "
75	18	30	22	4.6	750 "	7½" "
77	18	30	22	5.2	800 "	8 " "
78	21	38	27	4.6	1000 "	10 " "
83	25	45	35	3.	1200 "	12 " "
85	27	45	35	3.	1300 "	9 " double
88	25	45	32	4.6	1200 "	8 " "
93	30	45	37	3.	1600 "	10 " "
95	32	60	45	3.	1600 "	10 " "
103	40	60	50	4.	1800 "	12 " "
105	35	50	43	2.	1500 "	10 " "
107	40	50	45	2.	1600 "	10 " "
108	40	70	55	2.55	1800 "	12 " "
110	50	80	65	2.55	2000 "	13 " "
114	50	65	55	3.7	2000 "	13 " "
122	60	95	80	2.	2200 "	15 " "
124	60	1 00	80	3.	2250 "	17 " "
146	60	90	75	2.	2800 "	19 " "
160	80	1 20	1 00	1.2	4000 "	

The above prices of attachments are for A1, A2, A3, C1, E1, F2, G1 G6, H1, H2, K1, K2, M1, M3, R1, R3, S1 and S2, and as they are now made for the respective chains. Other attachments will be furnished at special prices.

For table of approximate horse-power of each chain at various speeds, see page 174.

List of Attachments.

As Regularly Made for Original Ewart Link-Belting.

25	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$	$\mathbf{C}^{1}$	D^{3}	E^{1}		$\mathbf{G}^{1}$	$\mathbf{H}^{2}$	$\mathbf{K}^{1}$ $\mathbf{K}^{5}$ $\mathbf{K}^{6}$	M^{1}		$\mathbf{S}^{1}$	Coupler
32	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$	$\mathbf{C}^{1}$	D^{3}	E^{1}		$\mathbf{G}^{1}$		$\mathbf{K}^{1}$ $\mathbf{K}^{3}$ $\mathbf{K}^{5}$ $\mathbf{K}^{6}$	M^{1}		$\mathbf{S}^{1}$	Coupler
33	$\mathbf{A}^{1}$		D^{3}	E^{1}				$\mathbf{K}^{1}$ $\mathbf{K}^{3}$ $\mathbf{K}^{5}$ $\mathbf{K}^{6}$	M^{1}		$\mathbf{S}^{1}$	Coupler
34	$\mathbf{A}^{1}$	$\mathbf{C}^{1}$		E^{1}				$\mathbf{K}^{1}$				Coupler
35	$\mathbf{A}^{1}$ $\mathbf{A}^{2}$	$\mathbf{C}^{1}$		E^{1}				$\mathbf{K}^{1}$ $\mathbf{K}^{5}$			$\mathbf{S}^{1}$	Coupler
42	$\mathbf{A}^{1}$ A^{3}	$\mathbf{C}^{1}$						$\mathbf{K}^{1}$ $\mathbf{K}^{3}$ $\mathbf{K}^{5}$ $\mathbf{K}^{6}$			$\mathbf{S}^{1}$	Coupler
45	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$	$\mathbf{C}^{1}$	D^{3} $\mathbf{D}^{5}$	E^{1}	$\mathbf{F}^{2}$	$\mathbf{G}^{1}$	$\mathbf{H}^{2}$	$\mathbf{K}^{1}$ $\mathbf{K}^{3}$ $\mathbf{K}^{5}$	M^{1}		$\mathbf{S}^{1}$	Coupler
51	$\mathbf{A}^{1}$							$\mathbf{K}^{1}$ $\mathbf{K}^{5}$			$\mathbf{S}^{1}$	Coupler
52	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$	$\mathbf{C}^{1}$	D^{5}	E^{1}	$\mathbf{F}^{2}$	$\mathbf{G}^{1}$		$\mathbf{K}^{1}$ $\mathbf{K}^{5}$				Coupler
55	$\mathbf{A}^{1}$ $\mathbf{A}^{2}$	$\mathbf{C}^{1}$		E^{1}	$\mathbf{F}^{2}$			$\mathbf{K}^{1}$ $\mathbf{K}^{5}$	M^{1}		$\mathbf{S}^{1}$	Coupler
57	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$		$\mathbf{D}^{5}$	E^{1}	$\mathbf{F}^{2}$		$\mathbf{H}^{2}$	$\mathbf{K}^{1}$			$\mathbf{S}^{2}$	Coupler
62	$\mathbf{A}^{1}$ $\mathbf{A}^{3}$	$\mathbf{C}^{1}$	$\mathbf{D}^{5}$					$\mathbf{K}^{1}$ $\mathbf{K}^{5}$				Coupler
66		$\mathbf{C}^{1}$										Coupler
67	$\mathbf{A}^{1}$ $\mathbf{A}^{7}$ $\mathbf{A}^{11}$		$\mathbf{D}^{5}$	E^{1}	$\mathbf{FF}$ $\mathbf{F}^{2}$	$\mathbf{G}^{1}$	$\mathbf{H}^{1}$	$\mathbf{K}^{1}$			$\mathbf{S}^{2}$	Coupler
75				E^{1}			$\mathbf{H}^{1}$	$\mathbf{K}^{1}$	M^{3}	$\mathbf{R}^{1}$		Coupler
77	$\mathbf{A}^{1}$			E^{1}	$\mathbf{F}^{2}$	G^{1} $\mathbf{G}^{6}$	$\mathbf{H}^{1}$	$\mathbf{K}^{1}$		$\mathbf{R}^{3}$	$\mathbf{S}^{2}$	Coupler
78	$\mathbf{A}^{3}$ $\mathbf{A}^{7}$ $\mathbf{A}^{11}$		$\mathbf{D}^{5}$	E^{1}	$\mathbf{FF}$ $\mathbf{F}^{2}$ $\mathbf{F}^{4}$	G^{1} $\mathbf{G}^{6}$ $\mathbf{G}^{19}$	$\mathbf{H}^{2}$ $\mathbf{H}^{6}$	$\mathbf{K}^{1}$	$\mathbf{M}^{3}$	$\mathbf{R}^{1}$	$\mathbf{S}^{2}$	Coupler
83			$\mathbf{D}^{5}$	E^{1}	$\mathbf{FF}$	$\mathbf{G}^{1}$			$\mathbf{M}^{3}$			Coupler
85				E^{2}	$\mathbf{FF}$ $\mathbf{F}^{2}$ $\mathbf{F}^{5}$	$\mathbf{G}^{6}$	$\mathbf{H}^{1}$	$\mathbf{K}^{2}$ $\mathbf{K}^{4}$ $\mathbf{K}^{7}$	M^{3}		$\mathbf{S}^{2}$	Coupler
88	A^{1} $\mathbf{A}^{3}$ $\mathbf{A}^{7}$				$\mathbf{FF}$ $\mathbf{F}^{2}$ $\mathbf{F}^{8}$	G^{1} $\mathbf{G}^{6}$	$\mathbf{H}^{1}$	$\mathbf{K}^{1}$		$\mathbf{R}^{1}$	$\mathbf{S}^{2}$	Coupler
93						$\mathbf{G}^{1}$						Coupler
95					$\mathbf{F}^{2}$		$\mathbf{H}^{1}$	$\mathbf{K}^{2}$				Coupler
103	A^{1} $\mathbf{A}^{11}$			E^{1}	$\mathbf{F}^{2}$ $\mathbf{F}^{8}$	$\mathbf{G}^{6}$	$\mathbf{H}^{2}$	$\mathbf{K}^{1}$	$\mathbf{M}^{3}$	$\mathbf{R}^{1}$		Coupler
105					$\mathbf{F}^{1}$		$\mathbf{H}^{2}$	$\mathbf{K}^{2}$ $\mathbf{K}^{4}$	$\mathbf{M}^{3}$			
107					$\mathbf{F}^{1}$			$\mathbf{K}^{4}$	$\mathbf{M}^{1}$			
108					$\mathbf{FF}$ $\mathbf{F}^{2}$	$\mathbf{G}^{1}$		$\mathbf{K}^{2}$				Coupler
110					$\mathbf{F}^{2}$			$\mathbf{K}^{2}$				Coupler
114	$\mathbf{A}^{11}$				$\mathbf{F}^{8}$	$\mathbf{G}^{6}$		$\mathbf{K}^{1}$				Coupler
122					$\mathbf{F}^{2}$			$\mathbf{K}^{2}$	M^{3}			Coupler
124	$\mathbf{A}^{11}$				$\mathbf{F}^{2}$ $\mathbf{F}^{8}$	G^{1} $\mathbf{G}^{6}$		$\mathbf{K}^{1}$	$\mathbf{M}^{3}$	R^{1}		Coupler
146				E^{2}	$\mathbf{F}^{2}$ $\mathbf{F}^{5}$			$\mathbf{K}^{2}$ $\mathbf{K}^{4}$				
160								$\mathbf{K}^{2}$				

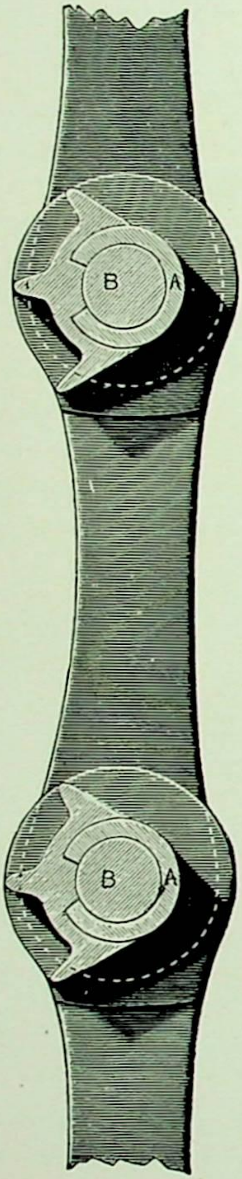
We aim to carry *large stocks* of the attachments marked in *full face* type. Some of those marked in italics may have to be made to order, the general demand not being sufficient to justify carrying much stock of them.

In addition to the above we have patterns of hundreds of Special Attachments. Prices quoted on receipt of application giving full particulars of special requirements.

The Ley Detachable Steel-Bushed Chain

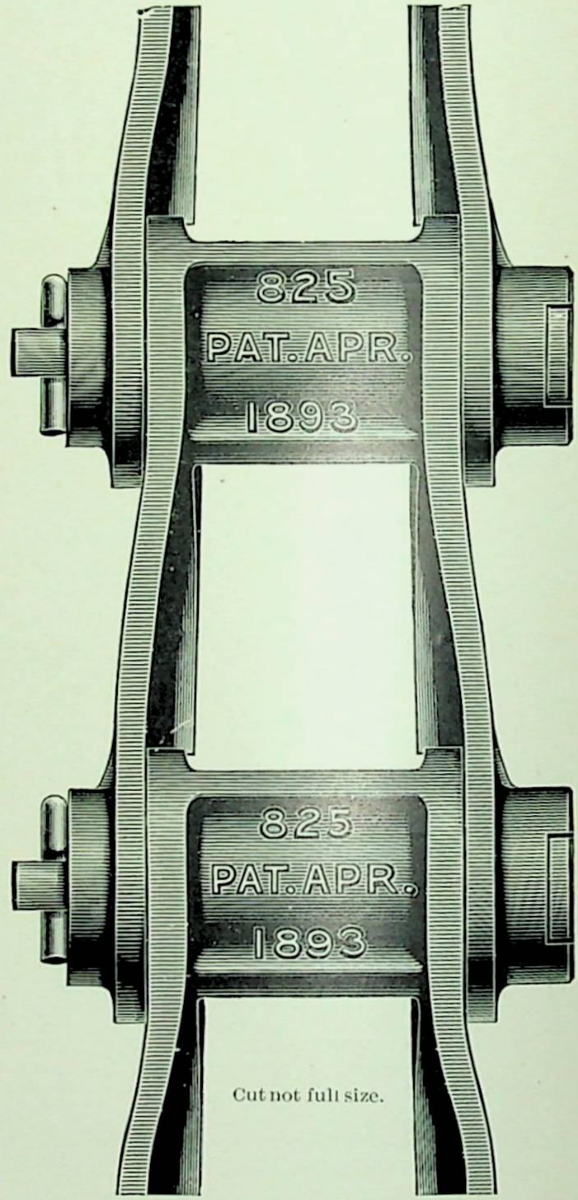
(Patented)

Is especially adapted for heavy drives, and for elevators and Conveyors handling material of a gritty or wearing nature, as ore, sand, coke, ashes, slag, etc. Its distinguishing feature is the case-hardened steel bush as seen in cut below. This alone comes in contact with the sprocket wheel, and between it and the case-hardened steel pins is the articulation of the chain. The chain is detachable, and the bushings readily slipped in and out, and cheaply renewed. No portions of the *links*, which are made of malleable iron, are exposed to wear, and the life of the chain is thus unlimited.



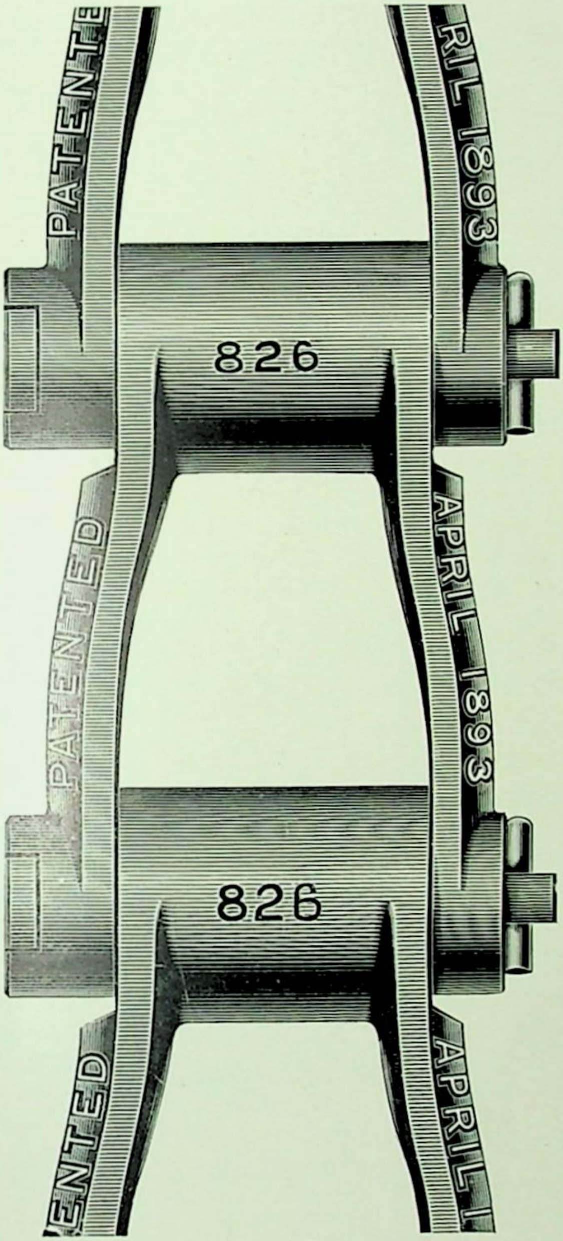
LONGITUDINAL SECTION "LEY" BUSHED CHAIN

Illustrating Case-Hardened Steel Bushing, A, and Pin, B.



Cut not full size.

No. 823. Pitch, 4 inches. Attachments, F^2, G^1, G^6, K^2. Working strain, 3,000 lbs.
No. 825. Pitch, 4 inches. Attachments, A^{42}, F^2, G^1, G^6, K^1, K^2. Working strain, 4,000 lbs.
For sprocket wheels, see page 223. Prices quoted upon application.

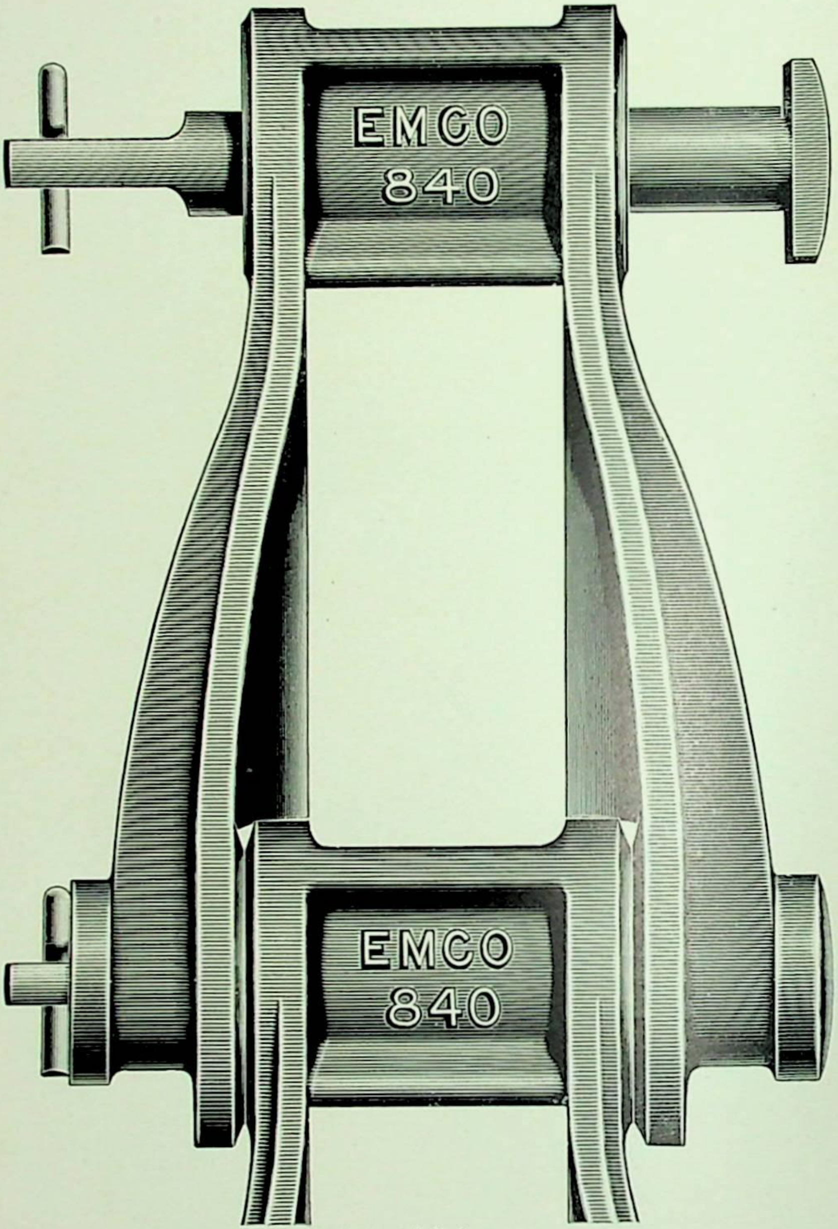


Cut not full size.

No. 826. Pitch, 4 inches. No attachments. Working strain, 3,800 pounds.

No. 835. Pitch, 4 inches. Attachments, K^2. Working strain, 3,500 lbs.

Prices quoted upon application. For sprocket wheels, see page 223.

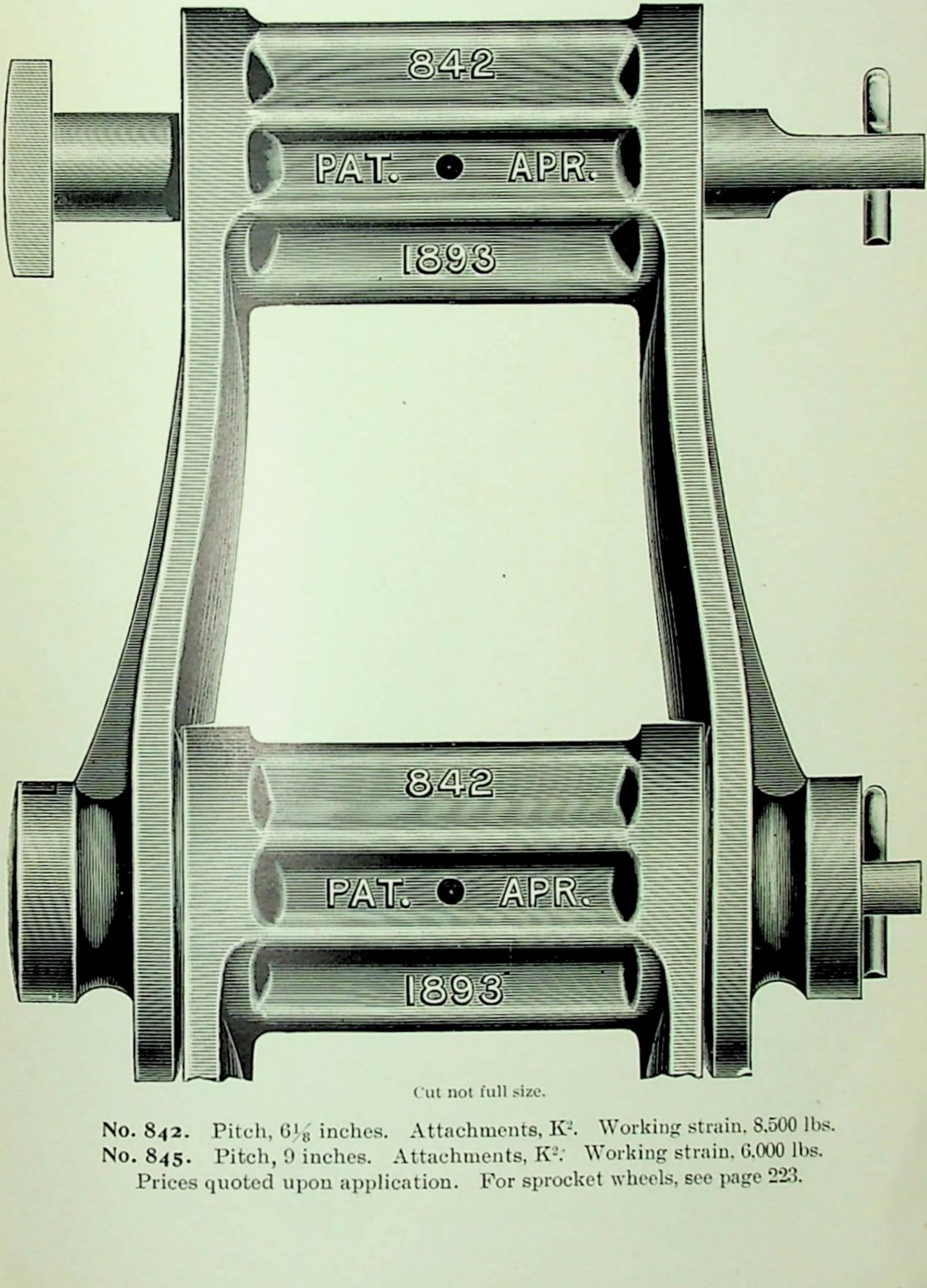


Cut not full size.

No. 840. Pitch, 6 inches. Attachments, K^2, K^4. Working strain, 5,000 lbs.

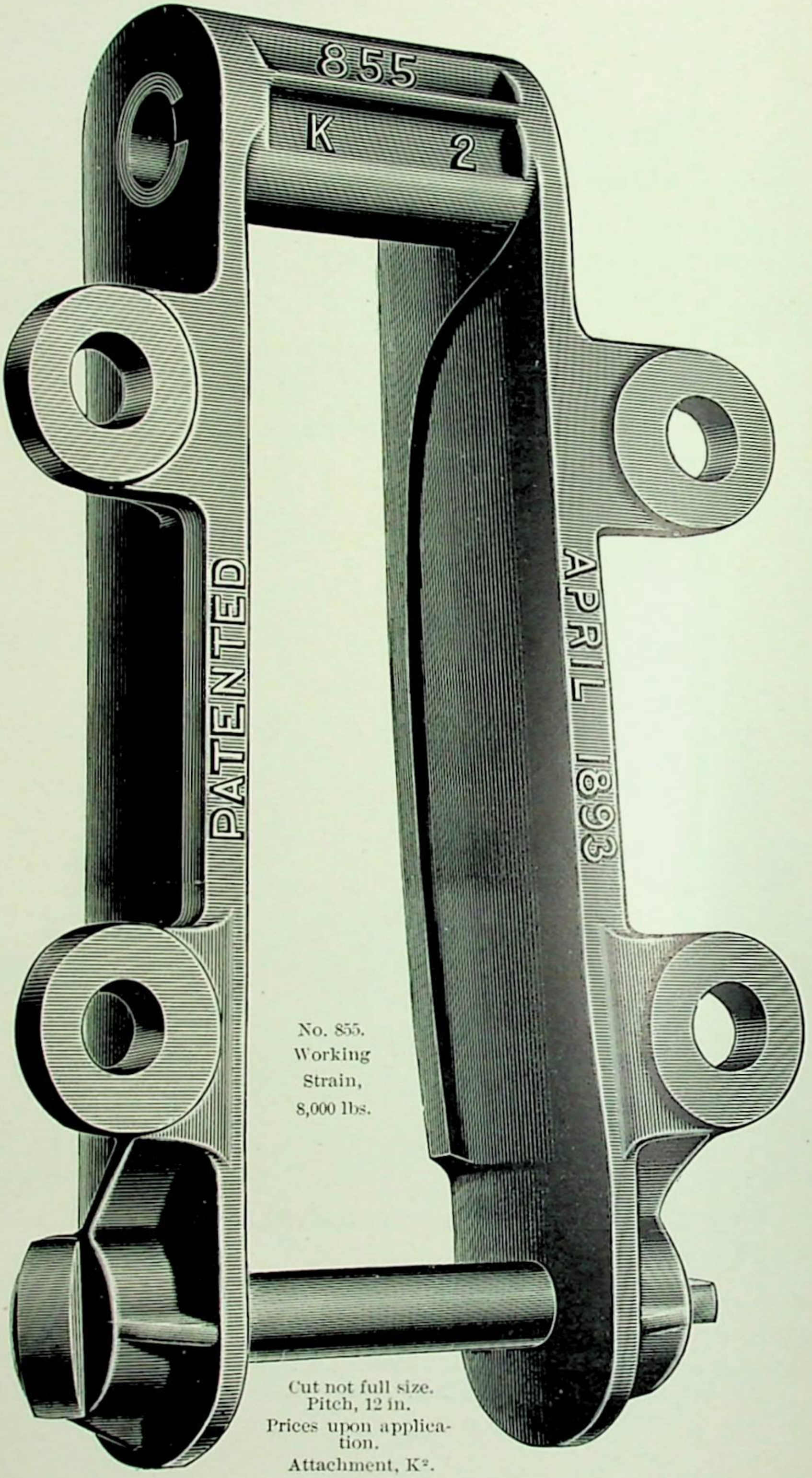
No. 843. Same as No. 840, but with head of pin at right angles to position shown in cut. Attachments, K^2, K^4. Pitch, 6 inches.

Prices quoted upon application. For sprocket wheels, see page 223.



Cut not full size.

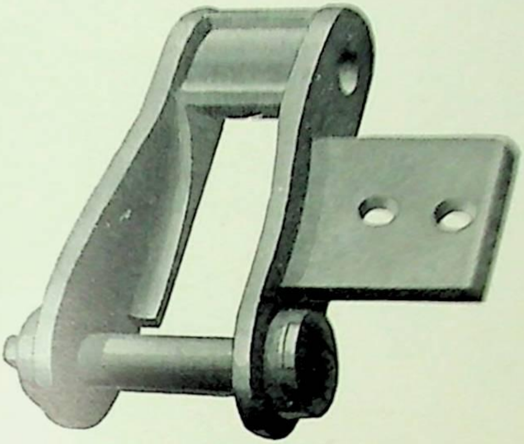
No. 842. Pitch, 6⅛ inches. Attachments, K^2. Working strain, 8,500 lbs.
No. 845. Pitch, 9 inches. Attachments, K^2. Working strain, 6,000 lbs.
Prices quoted upon application. For sprocket wheels, see page 223.



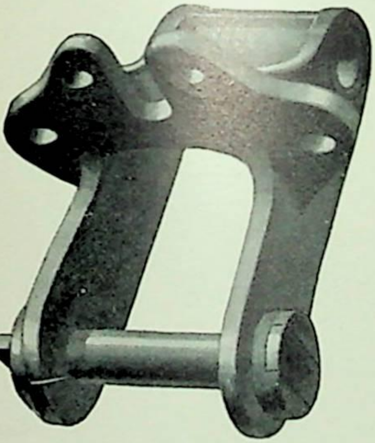
No. 855.
Working
Strain,
8,000 lbs.

Cut not full size.
Pitch, 12 in.
Prices upon application.
Attachment, K^2.

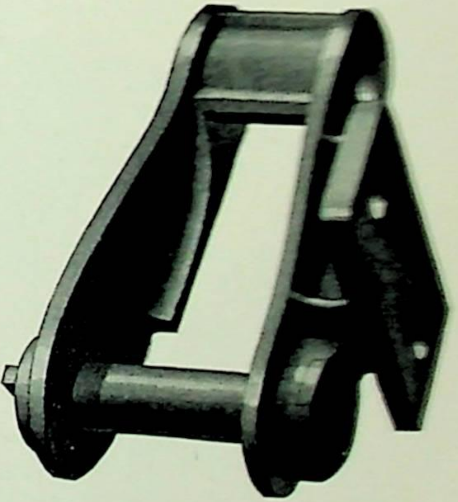
Attachments for Ley Bushed Chain.



A 38

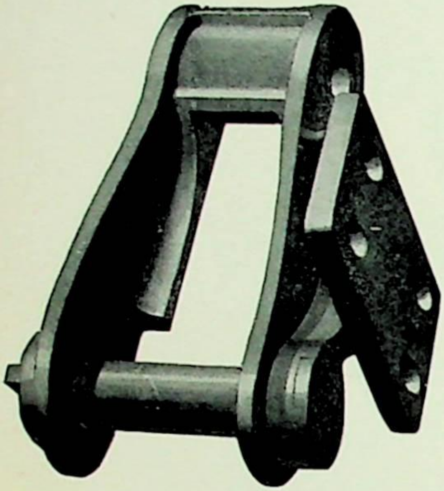


F2

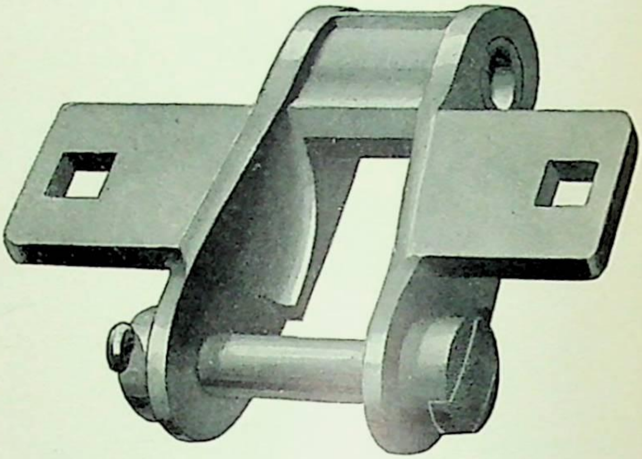


G1

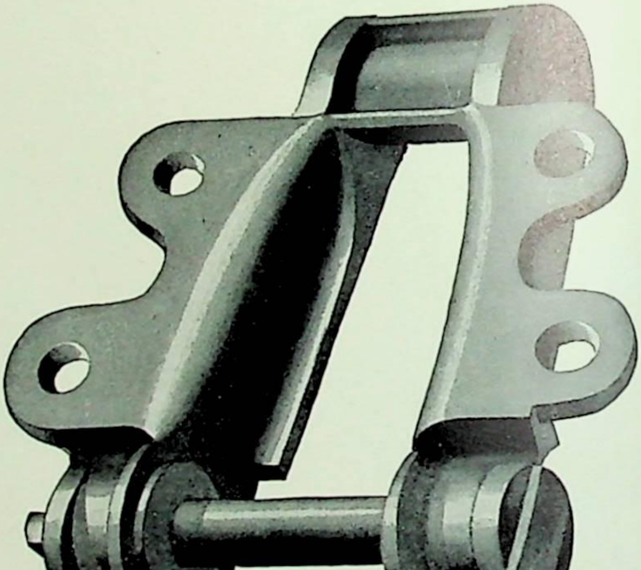
Attachments for Ley Bushed Chain—CONTINUED.



G 6

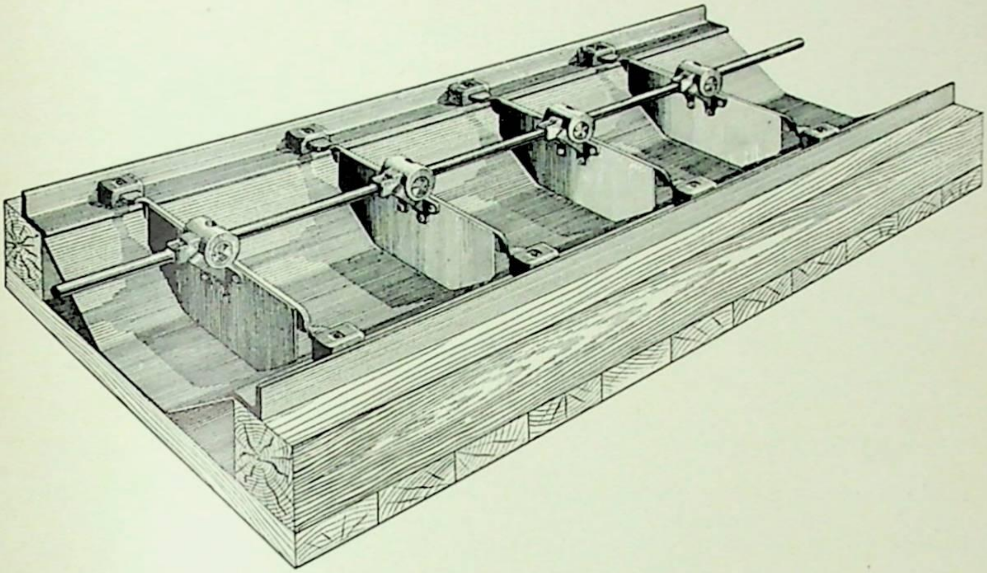


K 1



K 2

MONOBAR.

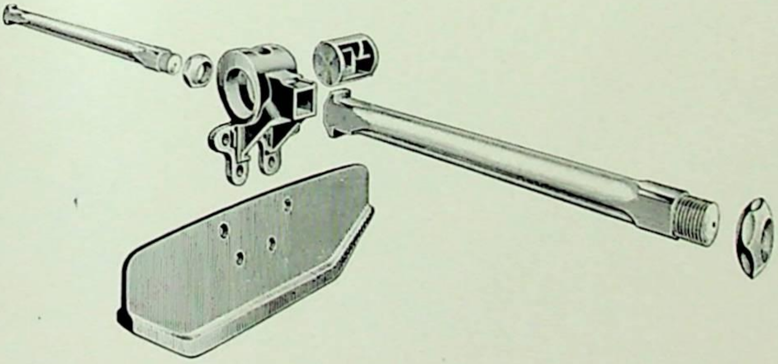


To meet the increasing demand for long and heavy duty Conveyors and Elevators required in the transporting of coal, ore and other materials, we have designed a chain to which we have given the descriptive name of

MONOBAR

(Patented June 13, 1893),

which consists of a series of bolts flexibly connected and having attachments for conveyor flights, elevator buckets, etc.



Ready for Assembling.

MONOBAR — CONTINUED.

CHARACTERISTICS.

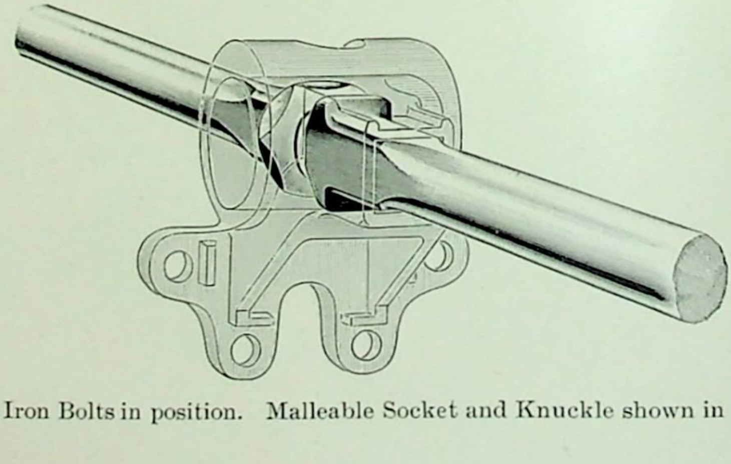
STRONG.—Having no welds, which are the chief element of weakness in wrought chains, and the malleable iron joints being properly proportioned with uniform distribution of metal, the WORKING STRAIN is that of high grade wrought iron bolts of the diameter employed.

LIGHT.—Its design permitting use of long bolts, the knuckles or joints are relatively few, and it is lighter for its strength than any chain in present use.

ADJUSTABLE.—By turning the nut on end of each bolt the pitch is made accurate, and as the nuts are locked while in working position this adjustment is permanent.

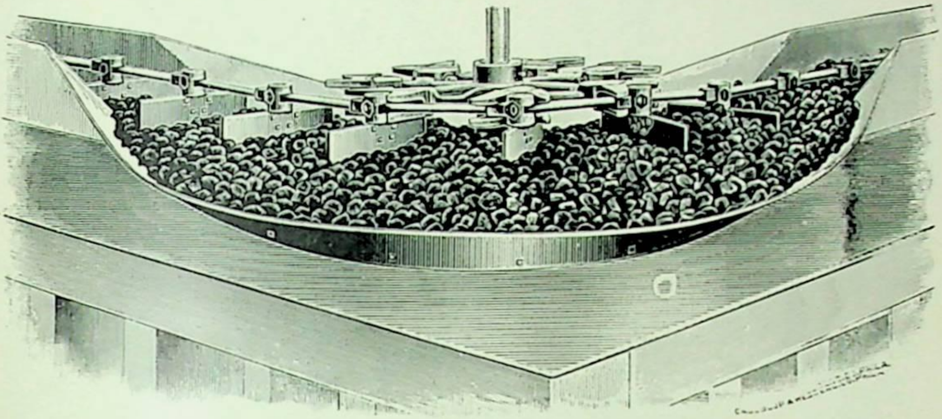
DURABLE.—The bearing surfaces are larger than in any known chain, and are designed for free lubrication while in motion. THERE IS ABSOLUTELY NO WEAR OF THE BOLTS, which, therefore, need never be renewed.

INEXPENSIVE.—First cost is materially less than for any chain of equivalent strength, and the bolts being permanent, expense of restoration to perfect condition is limited to cost of new joints or couplings.



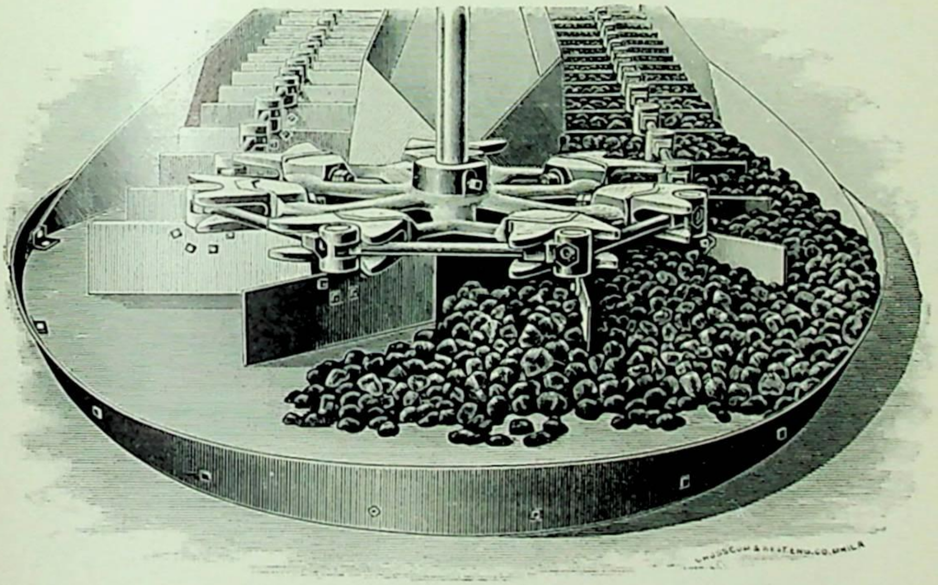
Wrought Iron Bolts in position. Malleable Socket and Knuckle shown in light tint.

HORIZONTAL CONVEYORS.

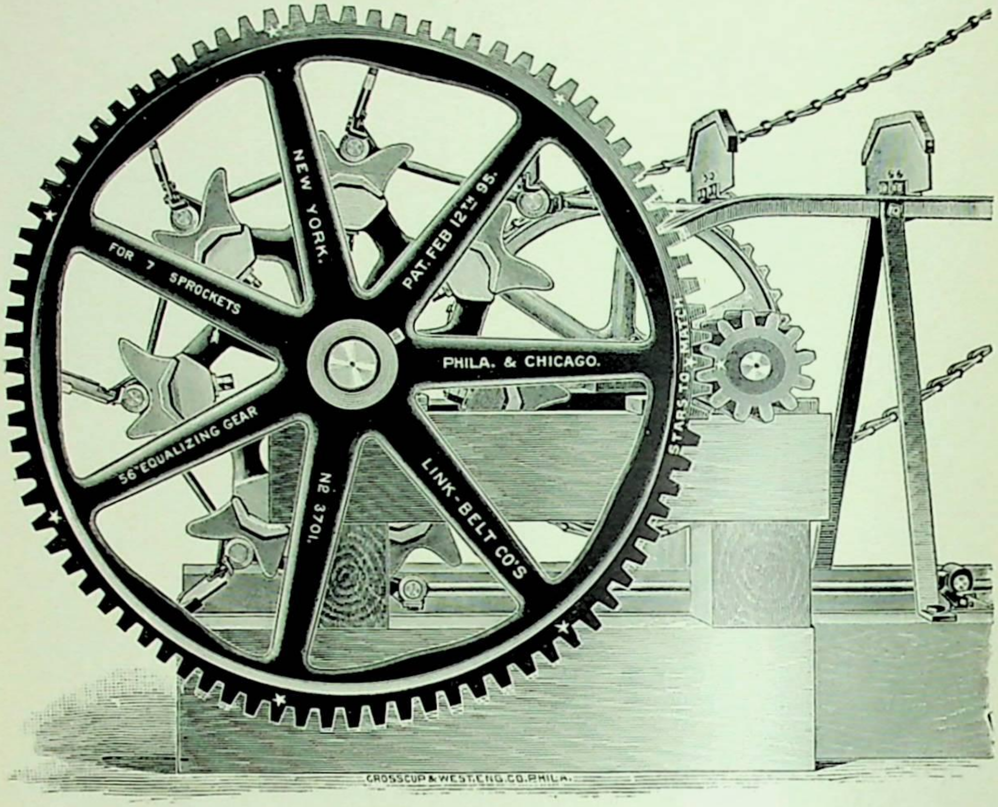

CROSSCUP & WEST ENG. CO. PHILA.

Right angle or 90° turn in Monobar Conveyor.

These illustrations show conditions under which Dodge chains or Monobar are frequently required to work. The enlarged space at the turns is made necessary by the feathering action of the flights in passing round the wheel. The outwardly turned ends of the troughs (patented January 2, 1894) prevent breakage of coal or other granular material in passing from the open space into the trough. This combination of a chain with flights, running in troughs, taking different directions in the same plane, is covered by patent dated June 21, 1887.


CROSSCUP & WEST ENG. CO. PHILA.

Horizontal Monobar Conveyor 180° turn.


NEW YORK.
PAT. FEB 12TH 95.
FOR 7 SPROCKETS
PHILA. & CHICAGO.
56" EQUALIZING GEAR
No 3701.
LINK-BELT CO'S
STARS TO MATCH
CROSSCUP & WEST.ENG.CO.PHILA.

THE "LINK-BELT" EQUALIZING GEARS (Patented)

Are designed to give uniform speed to conveyor and elevator chains. They counteract the pulsating motion imparted by driving wheels revolving at uniform speed to chains of long pitch. This jerky motion is inherent in all chain and wheel mechanisms. Unfortunately, it cannot be readily counteracted when chains of 6 inches or less pitch are employed, though equally destructive, if less noticeable, than in case of longer links.

In the illustration a seven tooth sprocket wheel is shown driving a chain of 18 inch links. As each link engages with the driving sprocket it is controlled by a radius 20¾ inches long, measured from the center of the sprocket wheel to the center of the hinge joint of the chain. When the wheel has made one-fourteenth of a revolution (or one-half the movement necessary to bring the next link of the chain into engagement with the sprocket), the controlling radius is reduced to 18¾ inches (measured from center of wheel to middle of chain link). This action is like that of a connecting rod, the horizontal movement varying in speed though the wheel to which it is attached revolves uniformly. If the sprocket wheel makes ten revolutions per minute, these alternations of chain speed occur 140 times per minute, and are necessarily fatiguing and destructive to the chain, producing a violent increase of the normal strain at frequent intervals without any useful result.

The EQUALIZING GEARS are designed to impart pulsating motion to the driving sprocket wheel exactly counteracting the variations to chain speeds above explained, and this is accomplished by making the pitch diameter of the spur wheel conform to a wave line, the number of elevations and depressions in this line corresponding with the number of sprockets of the chain wheel, and driving the spur wheel with an eccentric pinion as shown in the cut, the sprocket wheel and spur wheel being keyed on the head shaft in proper relative positions.

A series of exhaustive tests has developed the facts stated, and proved the value of this gearing. By its use less power is required, and the destructive strains due to driving with circular gears is eliminated, thus permitting installations of greater lengths or the use of lighter chains.

Monobar Chains.

No.	Diam. of Bolts.	Pitch.	Price.	Breaking Strain.
612	¾ in.	12 in.		18,200 lbs.
618	¾ in.	18 in.		18,200 lbs.
712	⅞ in.	12 in.		23,500 lbs.
718	⅞ in.	18 in.		23,500 lbs.
818	1 in.	18 in.		30,000 lbs.
824	1 in.	24 in.		30,000 lbs.
1018	1¼ in.	18 in.		41,000 lbs.
1024	1¼ in.	24 in.		41,000 lbs.
1224	1½ in.	24 in.		63,000 lbs.
1636	2 in.	36 in.		120,000 lbs.

Factor of safety varies with conditions of the work to be done.

EQUALIZING GEARS

And pinions for 8-tooth Sprocket Wheels.

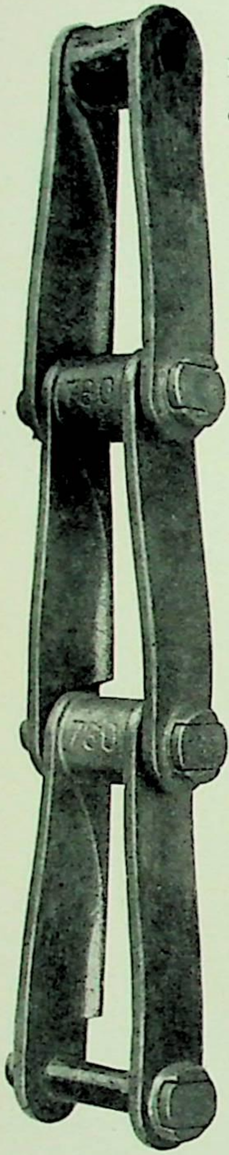
No.	Diameter.	No. Teeth.	Pitch.	Face.	Price.	Note.
6780	45¾ in.	96	1½ in.	4 in.		Gear.
6779	5¾ in.	12	1½ in.	4 in.		Pinion.
6279	61 in.	96	2 in.	6 in.		Gear.
6278	7¾ in.	12	2 in.	6½ in.		Pinion.
6150	84 in.	96	2¾ in.	8 in.		Gear.
6151	10½ in.	12	2¾ in.	8½ in.		Pinion.

SOLE PLATES FOR RIGID PILLOW BLOCKS COMPLETE WITH BOLTS.

Pattern No.	Headshaft.	Countershaft.	Center to Center.	Price, per pair.
6292	$3\frac{7}{16}$ to $4\frac{15}{16}$	$2\frac{7}{16}$ to $2\frac{15}{16}$	34⅜	
6247	$4\frac{15}{16}$ to $5\frac{7}{16}$	$3\frac{7}{16}$ to $3\frac{15}{16}$	47¼	

For list of Sprocket Wheels, see page 223.

The No. 730



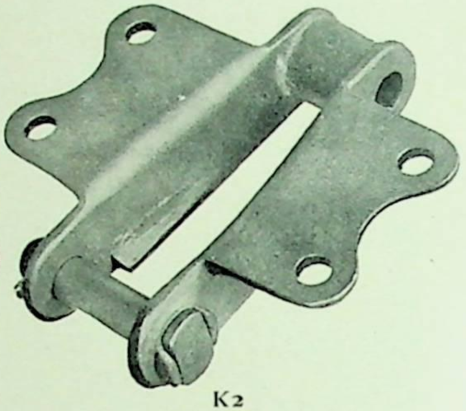
Is a very strong, light and durable chain, readily detached, and especially suited for double strand Elevators and Conveyors, and long single strand Conveyors. Its low price makes it desirable where the hardened bearings of the Ley chain are not a necessity.

Pitch, 6 inches.

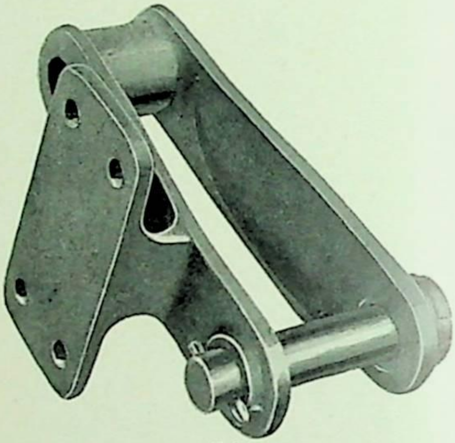
Workingstrain, 4,000 pounds.

Prices quoted upon application.

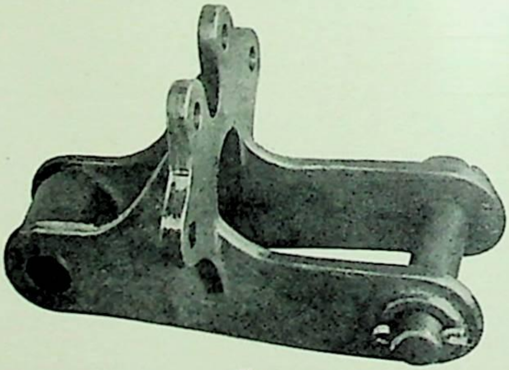
For Sprocket Wheels, see page 223.



K2



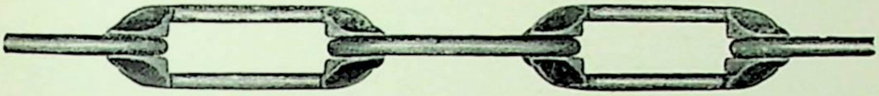
G6



F2

Dodge Chain

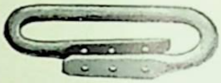
(PATENTED)



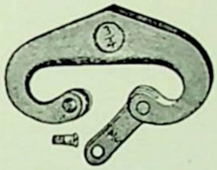
Dodge Chain is an accurately pitched cable chain, in which DETACHABLE BEARING BLOCKS are inserted between the links, presenting large bearing surfaces, and materially increasing the strength and preserving the pitch of the chain; for this reason it is the only satisfactory cable chain to run on toothed wheels, and is the strongest and cheapest for use in long and heavily worked conveyors and elevators.

The construction of the chain allows it to turn any number of angles, in any direction, in the same installation.

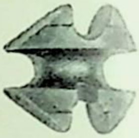
For this chain we have F attachments for flights; K^2 attachments for buckets, etc., and coupling links.



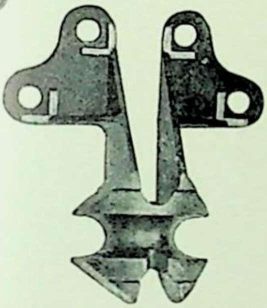
SPLIT COUPLER



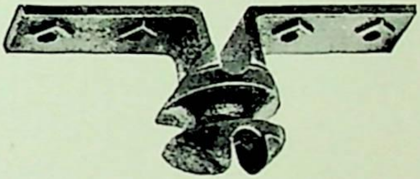
MALLEABLE COUPLER



PLAIN BEARING BLOCK



F^1 ATTACHMENT FOR FLIGHTS



K^2 ATTACHMENT FOR BUCKETS

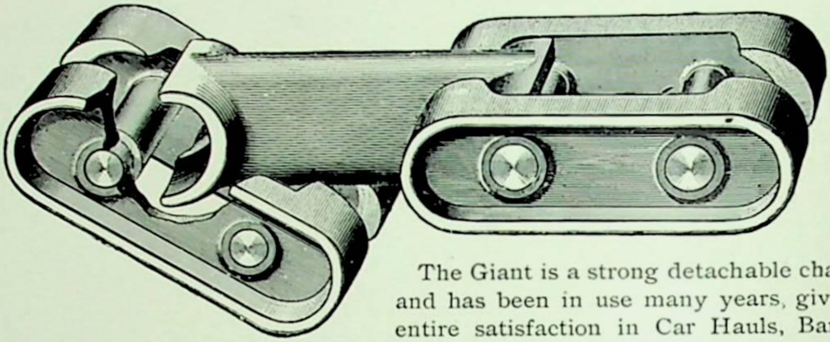
Price List

Size.	Pitch.	Working Strain.	Price, Per Foot.	Bearing Blocks.	Attachments.		Connect'g Links.
					Flight.	Bucket.	
½ in.	6 in.	10,000	$0.80	$0.30	$0.45	$0.45	$0.65
⅝ "	6 "	12,000	1.00	.35	.50	.50	.75
¾ "	8 "	20,000	1.50	.60	.80	.85	1.00
⅞ "	12 "	25,000	1.75	.80	1.00	1.00	1.50

For Sprocket Wheels see pages 224 and 225.

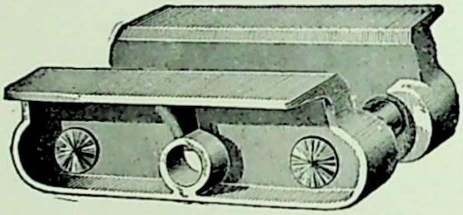
Giant Chain

(PATENTED)

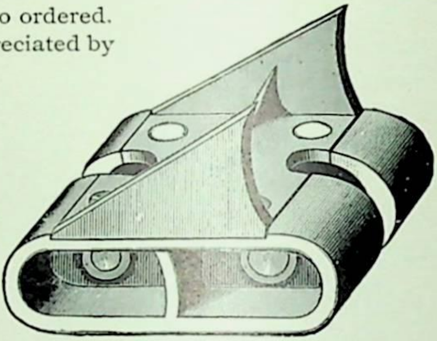


The Giant is a strong detachable chain, and has been in use many years, giving entire satisfaction in Car Hauls, Barrel Elevators, Log Hauls, Heavy Apron Conveyors, and other severe duties. We make Giant Chain so that rollers may be placed between the double links for use in very heavy and long slat conveyors, if so ordered.

As a Log Haul Chain it has been well appreciated by both lumber and pulp manufacturers.



K^2 ATTACHMENT



LOG TOOTH.

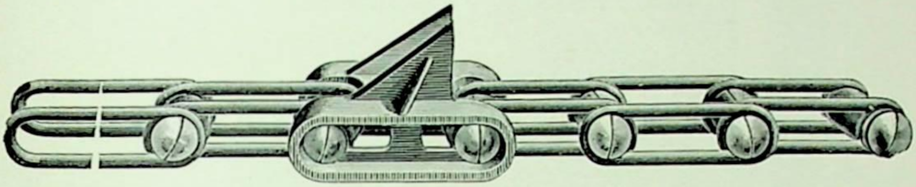
Price List

Size.	Pitch, Coupler and Double Link.	Price Per Foot.	Double Links. Price Each.	Coupler	K^2 or Slat Links.	K^5	All K Attachments.	Log Tooth.
600	6 in.	$1.00	$0.30	$0.20		$0.40	$1.20	$0.70
1200	12 in.	.90	.60	.30	$0.80	.80	1.10	
1050	10 in.	1.30	.75	.35		1.05	1.68	1.40
1075	10 in.	1.40	.80	.40				1.50

For List of Sprocket Wheels see page 225.

The "Howe" Detachable Wrought Iron Bull Chain, with Log Tooth.

(PATENTED SEPTEMBER 2, 1884.)



The Howe Bull Chain is composed of accurately pitched wrought iron cable links held in place by malleable iron separable pins, all links being detachable.

The log teeth, which are inserted 5 feet apart, are made in one solid piece without screws or rivets to work loose and cause trouble.

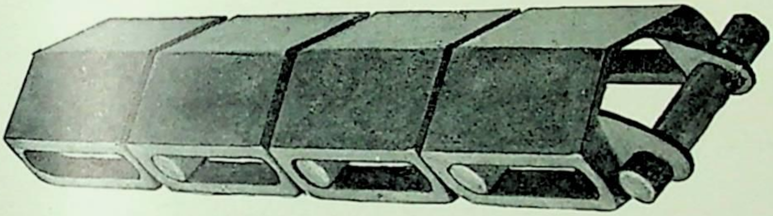
The Howe Bull chain is the simplest and most durable that has ever been produced; this statement is borne out by the increasing demand and popular favor which it has met since it was first put in service in 1884.

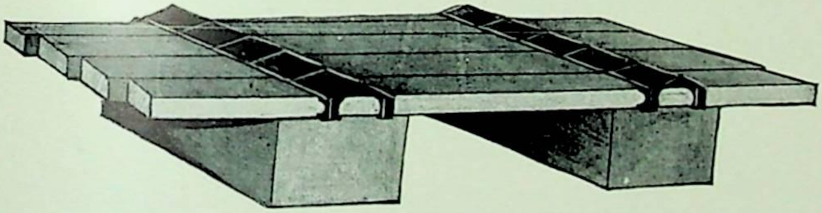
Working strain, 26,000 lbs. Price with log-tooth every 5 feet, $1.25 per foot.

Sprocket wheels, page 225.

No. 500 Transfer Chain.

(PATENTED.)





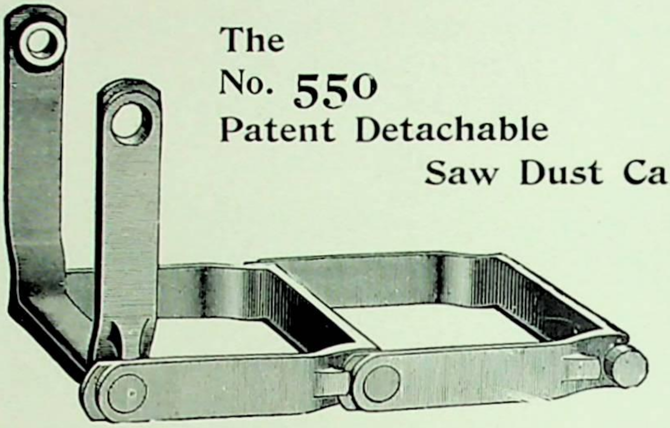
The No. 500 Transfer Chain is peculiarly adapted for horizontally transferring packages, barrels, sheet, skelp and bar iron, lumber, etc. In the lumber mills, oil refineries and rolling mills, where it has been extensively used, it has given entire satisfaction.

Two or more parallel strands are run in channels, as shown above. The top, only projecting above the channel, permits the material to be loaded upon and taken from it transversely. Its working strain is 2,000 lbs.

Price per foot, 65 cents.

For sprocket wheels, see page 226.

The No. 550 Patent Detachable Saw Dust Carrier



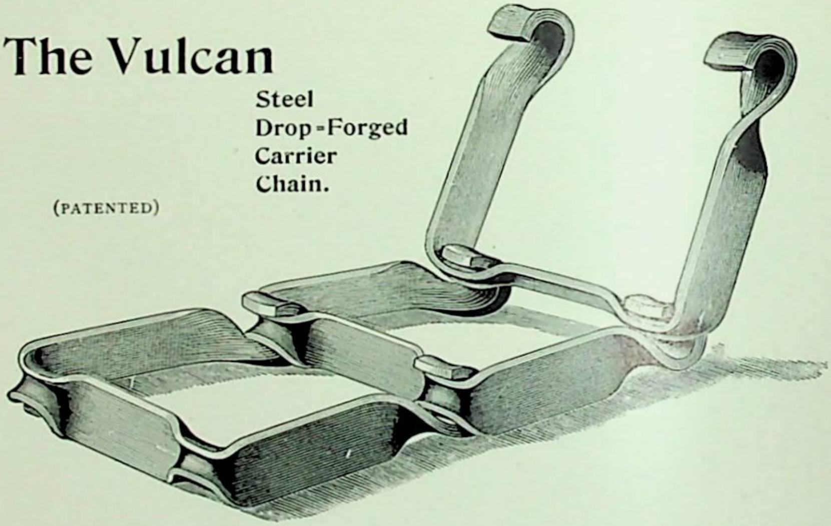
Is a low price Malleable Iron Chain, 7 in. wide and 6 in. pitch, embodying the detachable feature, combined with lightness. It is used for horizontal conveyors for saw-dust, coal screenings, etc.

Ultimate strength, 5,000 pounds. Price per foot, 40 cents.
For Sprocket Wheels see page 226.

The Vulcan

Steel Drop-Forged Carrier Chain.

(PATENTED)



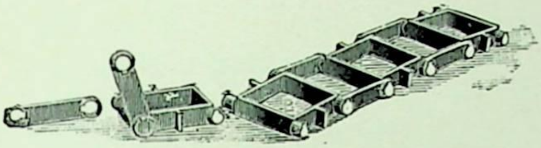
This is a detachable drop-forged steel chain, made by a special machine, which insures absolute uniformity. On account of its peculiar design it is the LIGHTEST, STRONGEST and SIMPLEST CARRIER CHAIN EVER MADE, and has no equal for conveyors, for such material as saw-dust, slabs, chips, tan-bark, etc., where intermediate delivery is required. No attachments are required for this chain, the end bars acting as carriers. It is made in three sizes:

6 in. pitch. 12 in. wide; stands 2,000 lbs. before yielding.
8 " 8 " " 5,000 " "
10 " 16 " " 4,000 " "

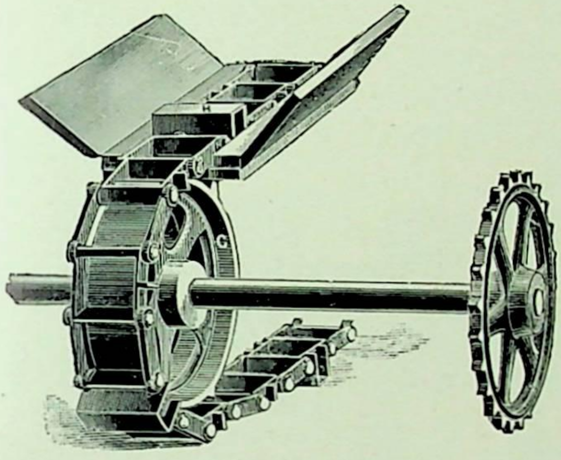
Price, 6 x 12 in., 60c per ft.; 8 x 8, 40c per ft.; 10 x 16 in., 80c per ft.
For Sprocket Wheels see page 226.

Block Chain.

(PATENTED)



No more trouble from choked-up Conveyors, or broken Flights and Attachments when handling Slabs, Sawdust and General Offal.



"Strong Box Links" (**H** attachments) cast *solid,* inserted every 8 feet, carry everything before them.

The Chain is 6⅝ inches wide, 1½ inches deep, and the **H** attachments project 1½ inches above the top of the chain.

The wheels generally employed are 20-inch diameter and make about 30 revolutions per minute.

Conveyor Trough should have inclined sides, as shown above, and be made of hardwood plank, maple or oak.

Two Chains are used side by side in very large mills.

As this Chain has attachment links it will handle slabs, sticks, etc., up an incline.

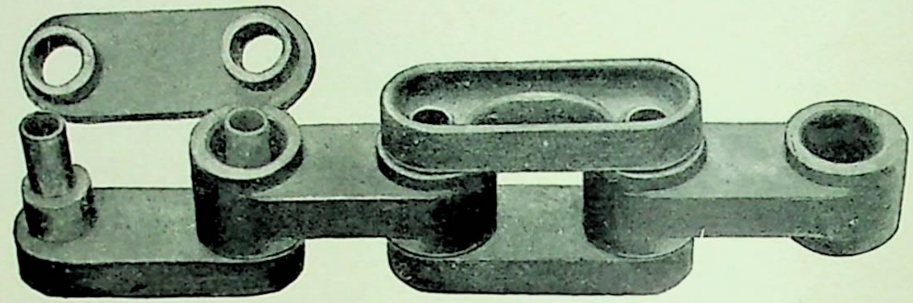
Ultimate strength, 7,000 pounds.

Price, with H attachments every 8 feet, 60 cents per foot.

For Sprocket Wheels, see page 226.

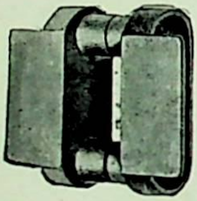
Tubular Chain

(PATENTED)

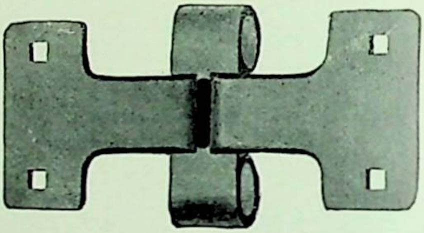


The Tubular Chain is non-detachable, has large wearing surfaces, no rivets, and is especially adapted for use in elevators and conveyors doing heavy work.

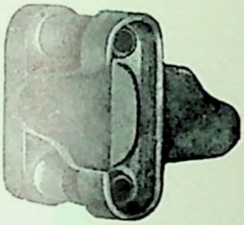
The entire chain is made of the best refined malleable iron, and has the attachments shown below.



K^2



K^3



G^6

It is made in three sizes.

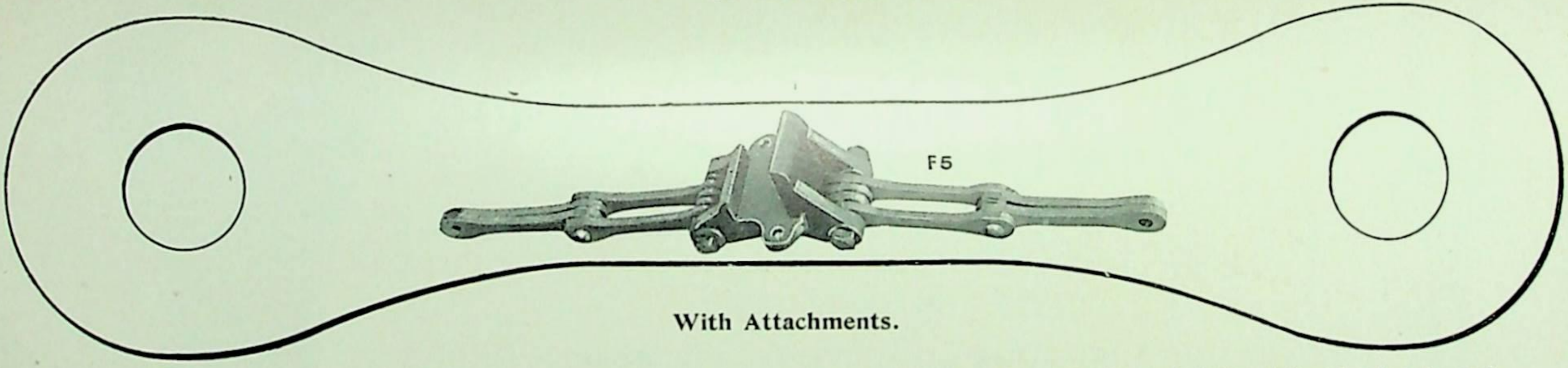
Price List.

No.	Pitch.	Working Strain.	Price Per Foot.	
			Plain.	With Attachments.
625	6 inch.	3500	$0 90	
1225	12 inch.	4000	80	$0 90
1250	12 inch.	5000	90	1 00

For Sprocket Wheels, see page 226.

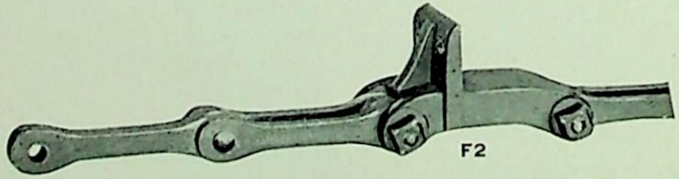
STEEL ICE CHAIN.

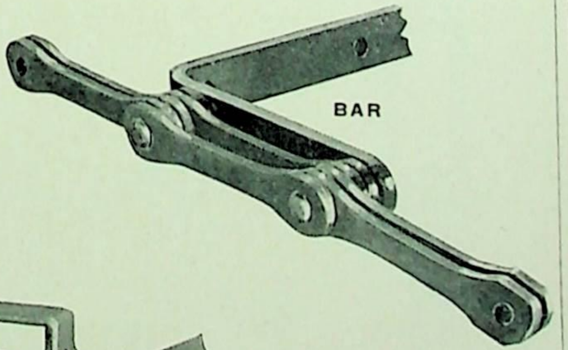
Six-inch Pitch.

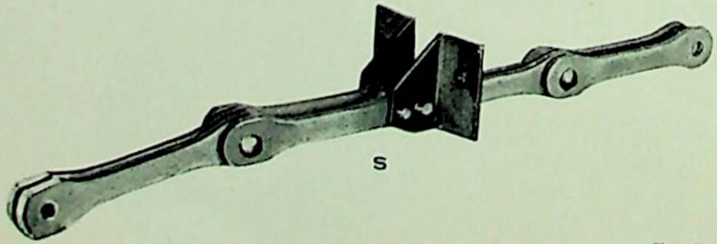


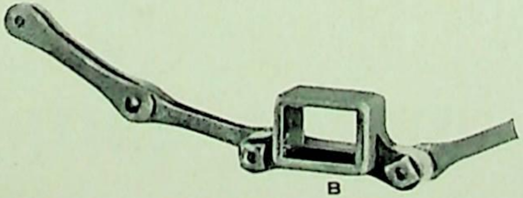
With Attachments.

This Chain is very largely used for handling ice and in packing-house work. We are prepared to make this and similar chains of various sizes and thickness of steel, and constantly carry a large stock on hand for the prompt filling of orders. Prices quoted upon application.

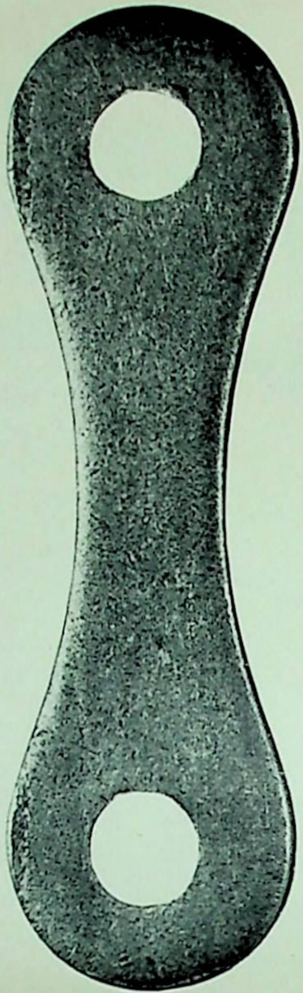

F2


BAR


S


B

For Sprocket Wheels see page 226.



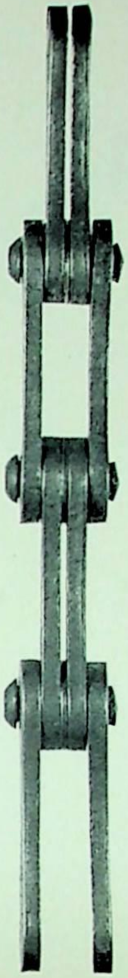
$3\frac{9}{32}$ Inch Pitch

Steel Hog Scraper Chain

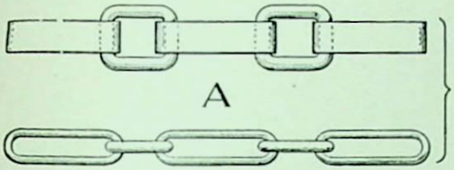
SPROCKET WHEELS WITH SOLID OR CAST
STEEL REMOVABLE TEETH
See List Page 226

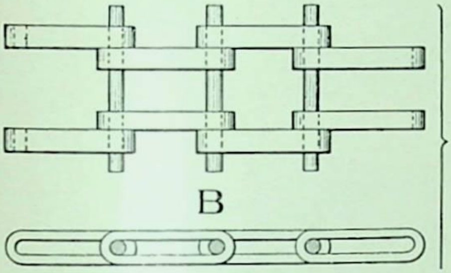
Orders Filled From Stock.

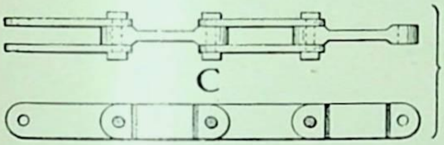
Prices Upon Application

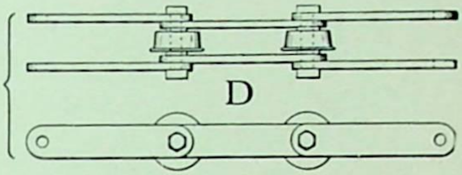


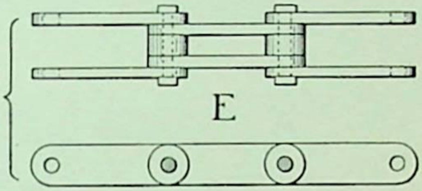
Special Chains.

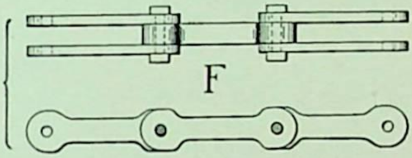












Above are illustrated a few forms of Special Chains which we make in sizes to meet requirements.

A, Cane Conductor Chain; very accurately pitched and of best refined wrought iron.

B, Link and Spindle Chain; chiefly used for continuous bucket coal elevators of large capacity.

C, Steel one and two-bar Chain; ends of center link enlarged to increase pin and sprocket wearing surface.

D, Two and two Strap Link Chain with rollers; for long carriers.

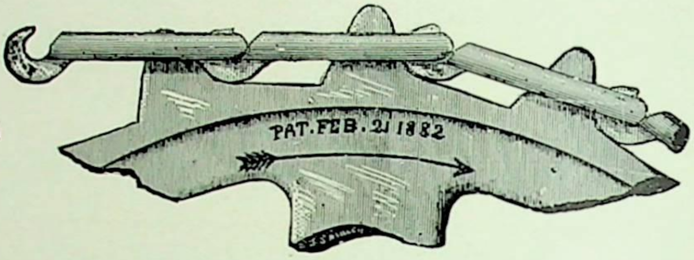
E, Two and two Strap Link Chain with spacers.

F, A strong and durable steel Chain for miscellaneous heavy work.

Sprocket Wheels.

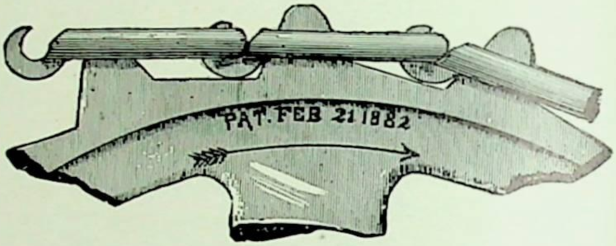
With Patent Differential Rim.

A



Cut *A* shows proper position of Links on *Driving* Wheel.

B



Cut *B* shows proper position of Links on *Driven* Wheel.

Link-Belting should, wherever possible, run with the BACK OF THE COUPLING HOOK to the wheel, and care must be taken to have the teeth of the sprocket wheels engage the links as shown in above cuts.

Where it is necessary to run a wheel in contact with the FACE SIDE of a belt (the side on which the coupling hook is open), use "Face Wheels," as listed on page 222.

Our experience has demonstrated the fact that, to insure the most satisfactory results, Link-Belting should be run upon sprocket wheels having a differential pitch, as shown in cuts above. ALL SUCH WHEELS must run in the DIRECTION indicated by the ARROW CAST IN THE RIM.

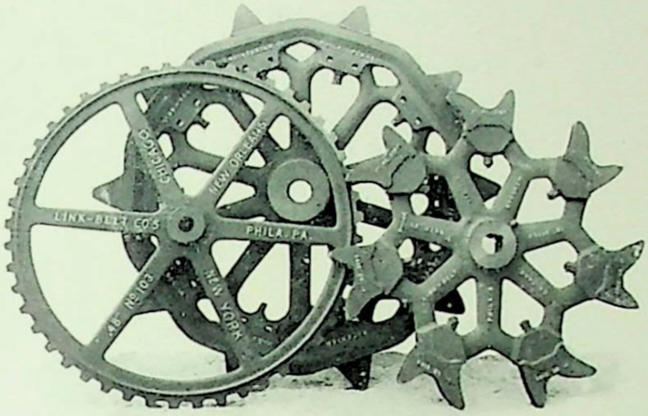
Therefore, when clutch or other special hubs are wanted, please state whether on RIGHT or LEFT hand side as you face the wheel with its TOP turning FROM you.

Link-Belting should always be lubricated, but do not use oil or grease where the Link-Belt is exposed to sand or grit. Pure plumbago may be used in such cases.

It is not desirable to run Link-Belting as tightly as would be necessary with flat belts.

SPROCKET WHEELS FOR EWART LINK-BELTING.

BORED AND SET SCREWED OR KEY SEATED.



NOTE.—In some instances several numbers of Link-Belting run on same Wheels, as in case of Nos. 57, 67 and 77.

No. 25.

Pitch, Diam. Ins.	No. of Teeth.	Price.
1½	5	$0 75
1¾	6	80
2	7	80
2½	8	85
2¾	9	90
3	10	95
3¼	11	1 00
3½	12	1 05
3¾	13	1 10
4	14	1 10
4¼	15	1 15
4¾	16	1 20
5	17	1 25
5½	19	1 35
6	21	1 45
6¼	22	1 50
6½	23	1 55
6¾	24	1 60
7	25	1 65
7½	26	1 70
8	28	1 80
8½	30	1 90
9	32	2 00
9¾	34	2 05
10	35	2 10
10¼	36	2 15
11½	40	2 30
12	42	2 40
13¾	48	2 70
15	52	2 90
16	56	3 10
17¼	60	3 30
18¼	64	3 50
24	84	5 00

No. 32.

Pitch, Diam. Ins.	No. of Teeth.	Price.
2	5	$0 80
2½	6	85
2¾	7	90
3	8	95
3½	9	1 05
3¾	10	1 10
4¼	11	1 15
4½	12	1 20
4¾	13	1 25
5¾	15	1 40
6	16	1 45
8¼	22	1 80
8½	23	1 95
9	24	2 05
9¼	25	2 15
9¾	27	2 30
12	33	2 60
14	38	2 90
16	44	3 80
16½	45	3 40

Nos. 33 and 34.

Pitch, Diam. Ins.	No. of Teeth.	Price.
3	7	$0 95
3½	8	1 05
4	9	1 15
4½	10	1 25
5½	12	1 45
6½	15	1 70
7	16	1 80
8½	19	2 00
9¾	22	2 25
12	27	2 60
14¼	32	3 05
15¼	34	3 0
16	36	3 40
18¼	41	3 90
24	54	5 30

Nos. 35, 45, 55.

Pitch, Diam. Ins.	No. of Teeth.	Price.
2½	5	$0 90
3	6	1 00
3¾	7	1 10
4¼	8	1 25
4¾	9	1 35
5¼	10	1 45
5¾	11	1 55
6	12	1 65
7	13	1 75
7¼	14	1 85
8	15	1 95
8½	16	2 05
8¾	17	2 15
9½	18	2 25
10	19	2 35
10½	20	2 45
11½	22	2 70
12	23	2 80
12½	24	2 90
13	25	3 00
14¼	27	3 30
16	31	3 70
16½	32	3 85
18¼	35	4 20
20¼	39	4 65
21¾	42	5 00
22¾	44	5 25
23½	45	5 40
28	54	7 00
30	58	7 50
36	69	10 50
37¼	72	12 00
42	82	14 00

No. 42.

Pitch Diam. Ins.	No. of Tee h.	Price.
2	5	$1 00
3	7	1 10
3½	8	1 15
3¾	9	1 20
4¾	11	1 35
5¾	13	1 45
6¼	14	1 60
8	18	1 95
8¼	19	2 00
9½	22	2 25
10½	24	2 40
11¾	27	2 70
14	32	3 20
15½	36	3 50
18	41	4 00
20	46	4 50
24	55	5 75
31	72	9 00

No. 51.

Pitch Diam. Ins.	No. of Teeth.	Price.
1¾	5	$0 90
2½	7	1 00
3¼	9	1 15
4	11	1 25
4¼	12	1 30
5	14	1 40
5½	15	1 50
6¼	17	1 60
8	22	2 00
10	27	2 35
10⅛	28	2 45
10¼	29	2 50
12	33	2 75
14	39	3 20
16	45	3 70
18¼	50	4 10

For Idlers, Face Wheels, Live Roll Wheels, and Gap Wheels, see page 222.

Ewart Sprocket Wheels—Continued.

No. 52.			Nos. 57, 67, 77			No. 62.			Nos. 75, 78, 88		
Pitch Diam. Ins.	No. of Teeth	Price.	Pitch Diam. Ins.	No. of Teeth	Price.	Pitch Diam. Ins.	No. of Teeth	Price.	Pitch Diam. Ins.	No. of Teeth	Price.
3½	7	$1 10	4½	5	$1 35	3¾	7	$1 35	4	5	$1 55
4	8	1 20	4¾	6	1 45	4¼	8	1 40	5	6	1 65
4¼	9	1 30	5½	7	1 55	5	9	1 50	6	7	1 80
5	10	1 40	6	8	1 70	5¾	11	1 70	6½	8	2 00
5¼	11	1 50	6¾	9	1 85	7¼	14	2 00	7½	9	2 20
5½	12	1 55	7½	10	2 00	8	15	2 10	8¼	10	2 40
6	13	1 65	8	11	2 15	8¼	16	2 20	9	11	2 60
6½	14	1 75	8¾	12	2 30	9¼	18	2 45	10	12	2 80
7	15	1 85	9½	13	2 50	10½	20	2 75	10¾	13	3 00
7½	16	1 95	11	15	2 85	11½	22	3 05	11½	14	3 20
8	17	2 05	11¾	16	3 05	12	23	3 20	12½	15	3 40
9	19	2 30	12½	17	3 25	14¾	28	3 95	14¼	17	3 90
10	21	2 50	14	19	3 65	16	30	4 25	16	19	4 40
12½	26	3 00	14¾	20	3 85	18	34	4 85	16½	20	4 65
13	27	3 15	15½	21	4 05	20	38	5 45	18½	22	5 15
14½	30	3 50	16½	22	4 25	23	43	6 20	20	24	5 65
16½	34	4 00	17	23	4 50	24	45	6 50	21	25	5 90
18	38	4 50	18¼	25	5 00	26	49	7 50	22½	27	6 40
20	42	5 00	19¾	27	5 50	30½	58	9 00	24	29	6 90
22	46	5 45	20	28	5 75				24¾	30	7 15
23¾	49	5 80	22	30	6 25	No. 66.			28½	34	8 55
24½	51	6 15	24¼	33	7 00				29½	35	8 90
26½	55	7 00	26	36	7 75				30½	37	10 00
30½	64	8 00	28	38	8 25	5	8	1 60	32½	39	10 90
			30	41	9 00	7	11	1 85	33½	40	11 40
			32½	44	9 75	7½	12	2 00	35	42	12 10
			36	49	12 00	8½	13	2 25	37	44	12 80
			38½	52	13 50	10¼	16	2 60	38	46	14 00
			41½	56	15 50	12½	19	3 10	42	49	16 50
			44½	60	17 00	16¼	25	4 25	48	58	22 50
			47½	64	21 00				64	77	33 50
									75	88	8 Seg
									84	99	9 "
									91	110	10 "
									100	119	10 "
									No. 83. All Double Teeth.		
									12	18	3 50
									15½	24	4 25
									16	26	4 50
									20	32	6 00
									24	38	6 50
									28½	44	8 50
									30	48	10 00
									34	54	12 00
									41	64	18 00

For Idlers, Face Wheels, Live Roll Wheels, and Gap Wheels, see page 222.

Ewart Sprocket Wheels—Continued.

Nos. 85 & 95.

Pitch Diam. Ins.	No. of Teeth	Price.
7¾	6	$2 60
10	8	3 25
12½	10	4 00
13½	11	4 30
16	13	5 35
17½	14	5 70
20	16	6 90
22½	18	8 10
24	19	8 70
30	24	11 75
33	26	13 50
34	27	14 50
35½	28	15 50
60	47	36 00

No. 103.

Pitch Diam. Ins.	No. of Teeth	Price.
7	7	$2 60
7¾	8	2 80
8¾	9	3 00
9¾	10	3 25
11¾	12	3 85
12½	13	4 20
13½	14	4 55
14½	15	4 90
15½	16	5 25
16½	17	5 60
18	19	6 30
19½	20	6 65
21½	22	7 35
22½	23	7 70
23½	24	8 00
25½	26	9 00
27¼	28	10 00
30	31	11 50
32	33	12 50
37	38	15 25
41	42	17 50
45	46	21 00
48	49	23 50
64½	66	45 00
66	68	50 00
68	7 Seg. 70	40 00
79	81	70 00
96	7 Seg. 98	62 00
103⅝	6 Seg. 108	70 00

Nos. 105 & 107

Pitch Diam. Ins.	No. of Teeth	Price.
11¾	6	$4 50
15¾	8	4 90
19½	10	6 25
19¾	Dbl Teeth 20	7 00
23	12	7 75
23½	Dbl Teeth 24	8 75
25¼	13	9 75
27½	14	10 75
31	16	13 00
36¾	19	16 00
48½	25	25 50

No. 108.

Pitch Diam. Ins.	No. of Teeth	Price.
9½	6	$4 20
12	8	4 50
13½	9	5 00
16½	11	6 00
18	12	6 50
20	14	7 50
24	16	9 00
30	20	12 50
36	24	15 50
48	32	25 00

No. 114.

Pitch Diam. Ins.	No. of Teeth	Price.
8	8	$3 60
10	10	4 40
12¼	12	5 25
13¼	13	5 60
14¼	14	6 00
16½	16	6 80
18½	18	8 25
19½	19	9 00
24	23	11 50
24½	24	12 00
26¾	26	13 50
31	30	15 00
33	32	17 00
36	35	20 00
48½	47	30 00

No. 122.

Pitch Diam. Ins.	No. of Teeth	Price.
17½	9	$9 00
19	10	10 00
21½	26	11 25
23	12	12 50
29½	15	17 00
42½	22	25 00

No. 124.

Pitch Diam. Ins.	No. of Teeth	Price.
11½	9	$4 75
12½	10	5 10
14½	11	5 60
15¼	12	6 25
16½	13	7 00
18¾	15	9 00
21½	17	11 00
24	19	13 00
26	20	14 00
31	24	16 50
36	28	20 00
44	34	26 00
48	38	35 00
62	48	50 00
72	56	65 00

No. 146.

Pitch Diam. Ins.	No. of Teeth	Price.
16	8	$8 00
18	9	9 00
20	10	10 00
32	16	18 00
36	18	20 00

No. 160.

Pitch Diam. Ins.	No. of Teeth	Price.
30	9	$35 00
40	12	45 00
43	13	55 00

Additional Price to be added to the List Price for Split Sprocket Wheels.

Diameter.	No. of Link-Belt.	Price.	Diameter.	No. of Link-Belt.	Price.
6 to 12	25 to 52	$1 70	24¼ to 36	32 to 52	$2 90
	57 to 77	1 85		57 to 77	3 20
	78 to 95	2 00		78 to 95	3 60
	103 to 160	2 20		103 to 160	4 00
12¼ to 24	25 to 52	$2 35	36¼ to 60	57 to 77	$4 60
	57 to 77	2 50		78 to 95	6 00
	78 to 95	2 65		103 to 160	7 80
	103 to 160	2 80			
			Above 60	78 to 160	$12 00

For Idlers, Face Wheels, Live Roll Wheels, and Gap Wheels, see page 222.

Special Ewart Wheels.

Idlers. (Specially adapted to supporting horizontal stretches of belt.)

Chain Number.	Diameter	No. of Teeth.	Price.	Chain Number.	Diameter	No. of Teeth.	Price.
25	6 in.	21	$1 45	85, 95	10 in.	8	$3 25
25	8 "	28	1 80	85, 95	12½ "	10	4 00
33	6¾ "	15	1 70	85, 95	13½ "	11	4 30
35, 45, 55	4 "	7	1 25	103	7¾ "	7	2 60
35, 45, 55	4¼ "	8	1 30	103	9¼ "	9	3 00
42	3¾ "	9	1 20	103	10¼ "	10	3 25
52	8¼ "	17	2 65	103	13 "	13	4 20
57, 67, 77	8¼ "	11	2 15	103	15½ "	16	5 25
57, 67, 77	10 "	13	2 50	108	9½ "	6	3 75
75, 78, 88	6½ "	8	2 00	108	12 "	8	4 50
75, 78, 88	8¾ "	10	2 40				
75, 78, 88	10 "	12	2 80				
75, 78, 88	17 "	20	4 75				

Face Wheels. (For explanation see page 26.)

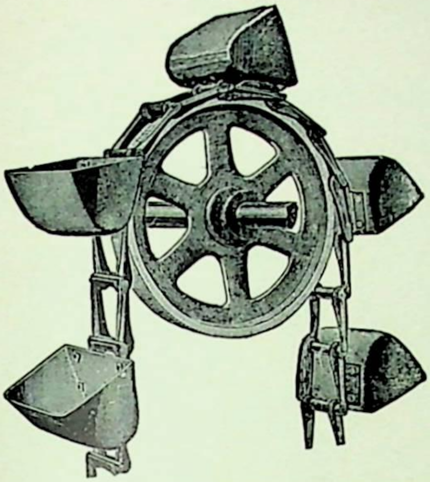
25	3¼ in.	11	$1 05	57, 67, 77	9¾ in.	13	$2 60
25	3½ "	12	1 10	57, 67, 77	12½ "	17	3 35
35, 45, 55	3½ "	6	1 10	57, 67, 77	14¼ "	19	3 75
35, 45, 55	6½ "	12	1 75	57, 67, 77	15¾ "	21	4 20
35, 45, 55	8½ "	16	2 15	57, 67, 77	19 "	25	5 25
35, 45, 55	10¼ "	19	2 45	57, 67, 77	24½ "	33	7 75
35, 45, 55	12¼ "	23	2 90	57, 67, 77	36 "	49	12 50
35, 45, 55	14¼ "	27	3 40	62	4¾ "	8	1 50
35, 45, 55	16¼ "	31	3 80	62	5¾ "	11	1 80
42	6 "	13	1 55	62	8½ "	16	2 30
42	8 "	18	2 00	62	10 "	18	2 55
42	9½ "	22	2 35	62	12½ "	23	3 30
42	18 "	41	4 10	62	14¾ "	28	4 10
51	2½ "	7	1 05	75, 78, 88	5 "	6	1 75
51	6¼ "	17	1 70	75, 78, 88	8½ "	10	2 50
51	9½ "	25	2 40	75, 78, 88	10¼ "	12	2 90
52	4¾ "	9	1 40	75, 78, 88	10¾ "	13	3 10
52	5 "	10	1 50	75, 78, 88	11¾ "	14	3 30
52	6¼ "	13	1 75	75, 78, 88	14¼ "	17	4 00
52	8¼ "	17	2 15	75, 78, 88	17 "	20	4 80
52	10 "	21	2 60	75, 78, 88	21 "	25	6 10
52	13 "	27	3 25	75, 78, 88	25 "	30	7 30
52	14¾ "	30	3 60	75, 78, 88	29½ "	35	9 40
52	16½ "	34	4 10	75, 78, 88	37 "	44	13 00
52	18 "	38	4 60	75, 78, 88	38 "	46	14 20
52	24 "	49	5 90	103	13½ "	14	4 65
57, 67, 77	5½ "	7	1 55	103	16½ "	17	5 75
57, 67, 77	6¾ "	9	1 95	103	25½ "	26	9 40
57, 67, 77	7½ "	10	2 10	103	37 "	38	15 50
57, 67, 77	8¼ "	11	2 25				

Live Roll Wheels.

57, 67, 77	6 in.	8	$2 10
57, 67, 77	6¾ "	9	2 15
57, 67, 77	7½ "	10	2 30
57, 67, 77	8 "	11	2 40
75, 73, 88	7½ "	9	2 45

Gap Wheels.

		No. of Gaps	
33	16 in.	6	$3 60
35, 45, 55	8⅛ "	4	2 20
42	8 "	3	2 10
57, 67, 77	14¾ "	4	4 00
57, 67, 77	21 "	4	6 00
75, 78, 88	16½ "	4	4 90
75, 78, 88	20 "	4	5 70
85, 95	20 "	4	7 10
108	22¾ "	3	8 75



Ewart Traction Wheels.

Traction Wheels have turned rims and are very satisfactory for use in elevators handling heavy or gritty material, the grip being ample to do all the work that the Link-Belting and Buckets should be called upon to do; and at the same time, in the event of a serious obstruction, the chain may slip. Elevators provided with these wheels will run smoother and last longer in gritty material than they would if sprocket wheels were used.

No. 85 and 95.

Pitch Diam. Inches.	List, Finished.
13	$ 6 50
14	7 60
15¾	8 25
16½	8 65
17¾	9 00
19	9 80
20½	11 10
24	13 40
25	14 40
30¾	20 20
35½	22 20

No. 108.

Pitch Diam. Inches.	List, Finished.
17	$ 9 80
18½	10 90
22¾	13 00
24½	15 50
30¼	20 50
36¾	26 50

No. 160.

Pitch Diam. Inches.	List, Finished.
30	$25 00
40	40 00

No. 122.

Pitch Diam. Inches.	List, Finished.
17¼	$11 00
19¼	12 90
21¾	15 00
23¾	16 25
29¼	22 60
36½	31 00

Ley Bushed Chain Sprocket Wheels.

No. 823

Pitch Diam.	Teeth.	Price.
12½	10	------
18¾	15	------
24	19	------
31	24	------

No. 825

Pitch Diam.	Teeth.	Price.
15½	12	------
17¾	14	------
20½	16	------
23	18	------
30½	24	------
36	28	------
18	14	Face.

No 826

Pitch Diam.	Teeth.	Price.
11½	9	------
12½	10	------
14½	11	------
15¼	12	------
16½	13	------
18¾	15	------
21½	17	------
24	19	------
26	20	------
31	24	------
36	28	------
44	34	------
48	38	------
62	48	------
72	56	------

No. 840 and 843

Pitch Diam.	Teeth.	Price.
23	12	------
25	13	------
29	15	------
35	18	------

No. 855

Pitch Diam.	Teeth.	Price.
20½	5	------
35	9	------

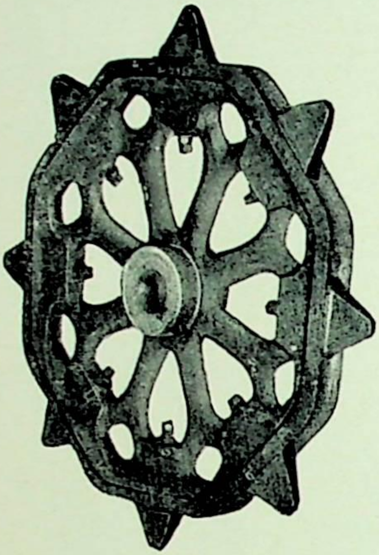
Monobar Sprocket Wheels.

No.	Pitch Diam.	Teeth.	Price.	
			Plain.	Removable Teeth.
612–712	31½	8	------	------
618–718–818	47	8	------	------
824–1024	62¾	8	------	------
1224	62¾	8	------	------
1636	94	8	------	------

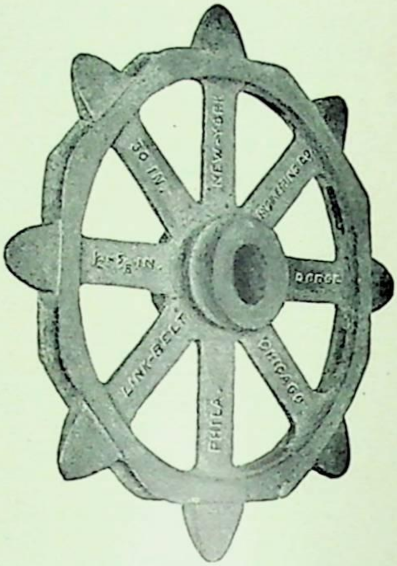
No. 730 Wheels.

Pitch Diam.	Teeth.	Price.
19½	10	------
23	12	------
30¾	16	------
36½	19	------
15¾	8	Idler.

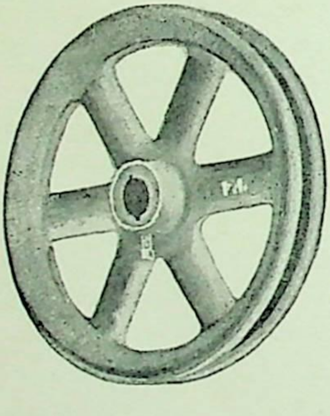
Dodge Chain Wheels.



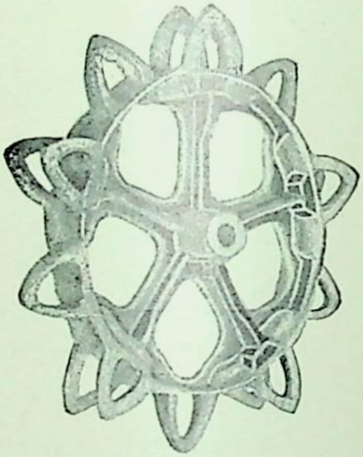
REMOVABLE TOOTH SPROCKET WHEEL



PLAIN WHEEL



TRACTION WHEEL



SPROCKET IDLER

Dodge wheels are of four varieties: **Removable Tooth Sprocket Wheels** are cast with recessed rims in which hardened steel wearing plates are fitted and gray iron teeth are inserted. Wheels of this class which have been in service ten years are still in good condition. When the gray iron teeth are finally worn out they are replaced quickly and cheaply. **Plain Sprocket Wheels** are not chilled and the teeth are not removable. **Traction Wheels** have grooved rims fitting the chain. These wheels can be run horizontally or vertically. **Sprocket Idlers,** for supporting and guiding the return chain of conveyors.

Price List of Sprocket Wheels for Dodge Chain.

Size of Chain.	Diameter.	No. of Teeth.	Plain Wheel.	Removable Tooth Wheel.
½ and ⅝ in.	20 in.	5	$12 50	
"	24 "	6	15 00	$25 00
"	30 "	8	25 00	45 00
"	38 "	10	30 00	
"	42 "	11	35 00	
"	46 "	12		60 00
"	50 "	13	45 00	
"	95 "	18	145 00	Special Wheel.
¾ in.	30 "	6		50 00
"	37 "	7		57 00
"	41 "	8		65 00
"	47 "	9	50 00	
"	50 "	10		90 00
"	66 "	13	Special Wheel	80 00
⅞ in.	46½ in.	6		100 00

Price List of Traction Wheels.

Diameter	24 in.	30 in.	37 in.	40 in.	42 in.	49 in.
Chain, ½ and ⅝ in.	$10 00	$20 00			$26 00	
" ¾ in.		25 00	$30 00	$35 00		
" ⅞ in.						$40 00

Price List of Sprocket Idlers.

Chain, ½ and ⅝ inch; diameter, 20 inches	Price, $5 75
" ¾ inch; diameter, 24 inches	" 11 00

Extra Teeth, with Bolts.

½ inch, 65c.	⅝ inch, 65c.	¾ inch, $1 10

Giant Chain Sprocket Wheels.

No. 600.			Nos. 1050 and 1075.			No. 1200.			No. 1200 with No. 600 Coupler.		
Pitch Diam.	No. of Teeth	Price.	Pitch Diam.	No. of Teeth	Price.	Pitch Diam.	No. of Teeth	Price.	Pitch Diam.	No. of Teeth	Price.
9	5	$4 90	17	5	$12 00				17	6	$11 50
12	6	6 25	20	6	15 00	20	5	14 00	23	8	14 00
16	8	9 00	20	6	Roller 15 00	24	6	16 00	26	9	16 50
18	10	10 60	22¾	7	18 00	31	8	21 50	37	13	24 00
24½	13	14 50	22¾	7	Roller 18 00	38½	10	27 50			
36	19	23 00	25	8	20 00	42	11	29 50			
43	22	30 00	36	11	28 00						
48	25	36 00	48	15	39 00						
			64	20	72 00						

Wheels for Howe Chain.

No. 1 or No. 2, 24 ins. Diameter, 12 Teeth,	$16 00
" 4 Idler, 24 " " 6 "	10 00

No. 500 Transfer.

Diameter.	Teeth.	Price.
8 in.	12	$3 25
12 "	18	4 50
16 "	24	6 00

Vulcan Wheels.

For	Diameter.	Spkts.	Traction.
6x12 in.	17½ in.	$30 00	$20 00
8x 8	18	20 00	18 00
10x16 "	28¾ "	50 00	45 00

6-Inch Block Chain.

Diameter.	Teeth.	Price.
20 in.	6	$12 50
29 "	9	18 50

No. 550.

Diameter.	Teeth.	Price.
10¼ in.	5	$ 6 00
17 "	9	9 75
21 "	11	12 00

Tubular Chain.

No. 625.

Pitch Diameter	No. of Teeth.	Price.
9	5	$ 4 90
12	6	6 25
15¼	8	9 00
17¼	9	9 50
18	10	10 60
24½	13	14 50
30	16	20 00
36	19	23 00
43	22	30 00
48	25	36 00

No. 1225.

Pitch Diameter	No. of Teeth.	Price.
16½	4	$12 00
20	5	14 00
24	6	16 00
30¾	4 gaps	20 00
31	8	21 50
38½	10	27 50
42	11	29 50

No. 1250.

Pitch Diameter	No. of Teeth.	Price.
19½	5	$14 00
24	6	16 00
30¾	8	21 50
38¼	10	27 50
Traction Wheels.		
23¼		
30¾		

6-Inch Pitch Ice Chain Wheels.

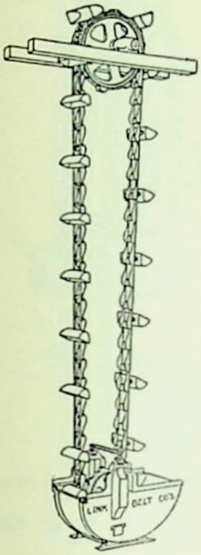
Pitch Diameter.	Teeth.		Price.
23	6	Solid and Removable Teeth.	
34½	9	" " " "	
42¼	10	Solid Teeth.	
46½	12	Special Plate.	
53½	14	Solid Teeth.	
61¼	16	" "	

3 9-32 Inch Steel Chain Wheels.

Pitch Diameter.	Teeth.		Price.
8½	4	Solid.	
10½	5	"	
23	11	"	
12¾	6	Removable.	

ELEVATORS, CONVEYORS AND CARRIERS.

As will be seen by perusal of table on page 7 the extensive employment of Link-Belting in the economical handling of all classes of Raw and Manufactured products is marvelous. In the growth of our industry we have designed many types of Elevators and Conveyors; the more common applications we show in the following outline sketches.



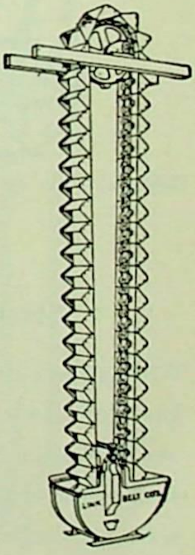
In writing for estimates, and to save time, please refer to questions on page 8.

Ordinary Type Link-Belt Elevator

discharging overhead by centrifugal force. Very extensively used for handling grain, coal, ashes, coke, slag, clay, lime, sand (see illustration page 17), gravel, cement, ores crushed or pulverized, matte, etc.

Link-Belt Elevators handle with equal facility materials hot or cold and wet or dry.

The chains are not cut by sharp edges of broken stone, ore and matte, as rubber and cotton belts are.



Continuous Bucket Elevator.

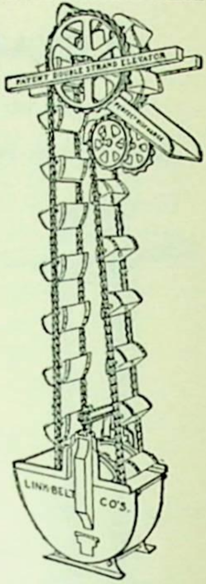
The material is fed directly into the buckets. In passing over the head, the flanged front of each bucket forms a chute for the discharge of the material in following bucket.

The Elevator runs at slow speed, with minimum breakage, and is especially suited for handling sized coal, coarse, shaly or stringy substances that cannot readily be picked up in a boot.

Photographic view of this Elevator is shown on page 46.

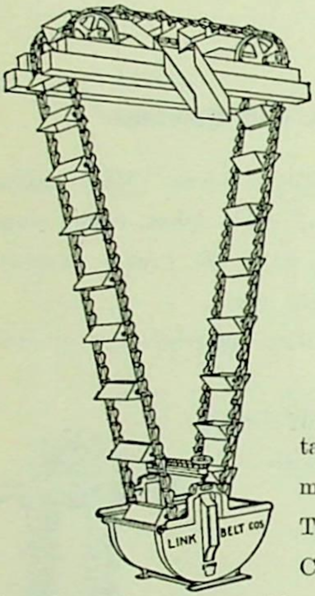
Perfect Discharge Elevators.

In passing around the wheels at head the buckets are completely inverted, making a clean delivery of their contents. They are run at relatively slow speed, and have met with much favor for handling breakable substances or materials which tend to cling to the buckets.

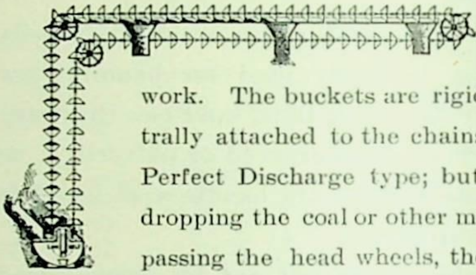


The Gravity Discharge Elevator

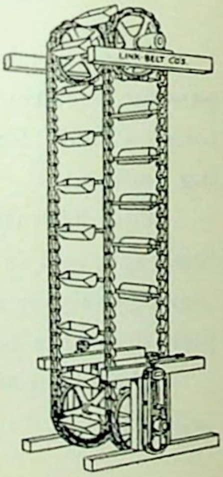
(Patented September 20, 1892),



is an outgrowth of our experience in handling sized coal, and has been found admirably adapted to that and similar work. The buckets are rigidly and centrally attached to the chains, as in the Perfect Discharge type; but instead of dropping the coal or other material after passing the head wheels, these buckets take the position of conveyor flights and move the material horizontally to any desired point of discharge This makes a desirable combination of Elevator and Conveyor for raising material and distributing into bins.



See also cuts on pages 67 and 47.

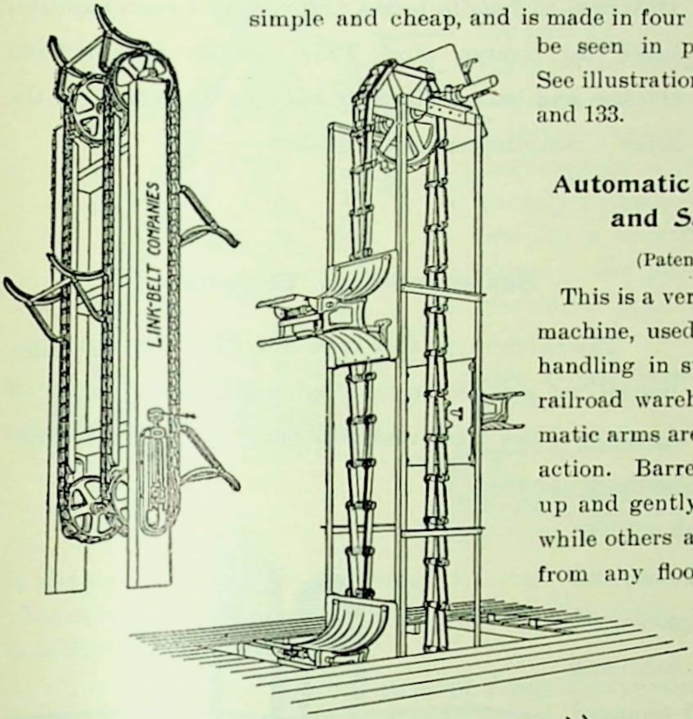


Special Double Strand Elevators

With buckets attached to **spacing bars,** successfully used for handling foundry or glass sand and like cutting substances (see illustration on page 156). This construction keeps the chains clean of the material handled and greatly prolongs the service of the links.

Standard Barrel, Keg and Sack Elevator

Delivers over head wheels. This elevator is very extensively used in flour mills, breweries, etc., handling barrels, boxes, bales, bundles and bags. It is strong, simple and cheap, and is made in four standard styles, as will be seen in price list on page 133. See illustrations on pages 16, 17, 132 and 133.



Automatic Discharge Barrel and Sack Elevator.

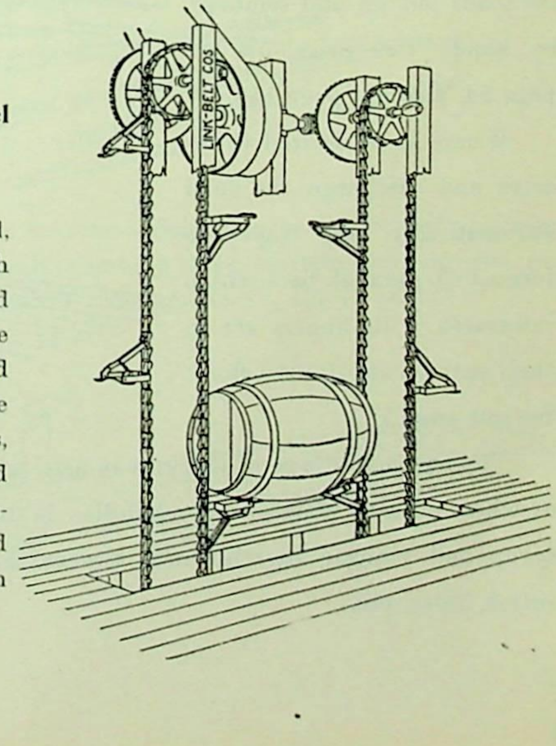
(Patented June 9, 1896.)

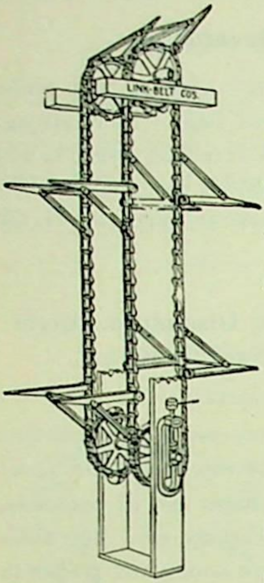
This is a very complete and efficient machine, used extensively for barrel handling in sugar and oil refineries, railroad warehouses, etc. The automatic arms are strong and perfect in action. Barrels or sacks are carried up and gently delivered on any floor, while others are being carried down from any floor to the ground. See illustration, page 14.

The Contact Discharge Barrel Elevator

(Patented June 9, 1896),

Is chiefly used for raising oil, lard, pork and other heavy barrels, which are carried up by cradles attached to the chains and rolled off at the designated floor by cam-shaped pushers (not shown in cut). These elevators are made in several forms, one of which, designed to stand against a wall with as little projection as possible, is illustrated herewith. Another form is shown on page 106.





Straight Arm Package Elevator,

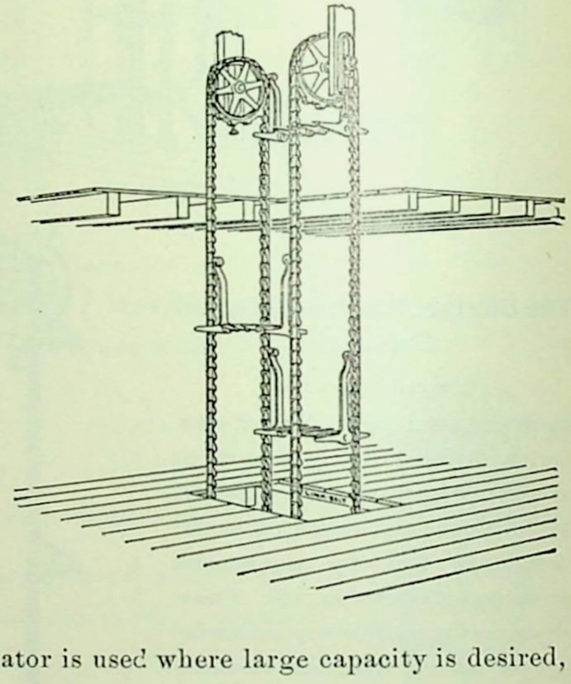
Designed to handle boxes and cases of merchandise, baled hay, crates, etc. This elevator differs from the keg and barrel elevator only in the shape of the arms. See illustration page 18.

Suspended-Tray Elevators.

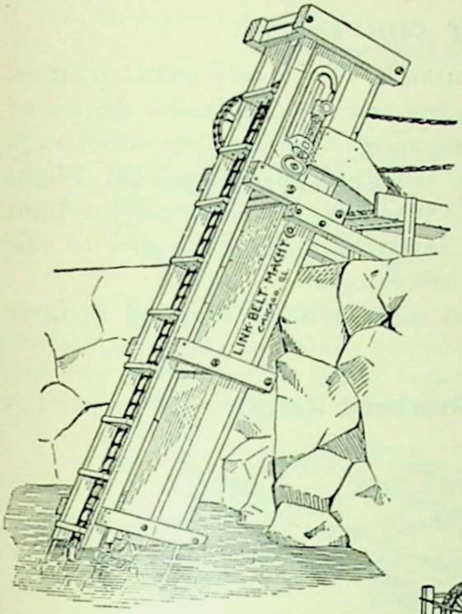
The carriers of this type are of various forms, but all are pivoted to the chains above the center of gravity of the load and will carry it over the head without jar.

For handling such articles as brick, tile, small boxes, and miscellaneous light packages, platforms are usually solid and the loads put on and removed by hand. See price list on page 64, also cut page 155.

Where it is desired to receive and discharge the load automatically, the trays are formed of parallel bars which intermesh with fingers set in their path on any desired floor. See cut page 15.



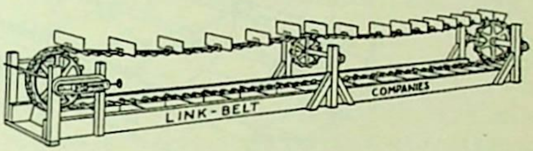
The automatic type of elevator is used where large capacity is desired, or where a heavy class of merchandise is to be handled, such as sugar, syrup and vinegar barrels, meat tierces, oil barrels, crates, caked ice, cotton bales, etc.


LINK-BELT MACH'Y Co.
CHICAGO, ILL.

The Link-Belt Box Water Elevator

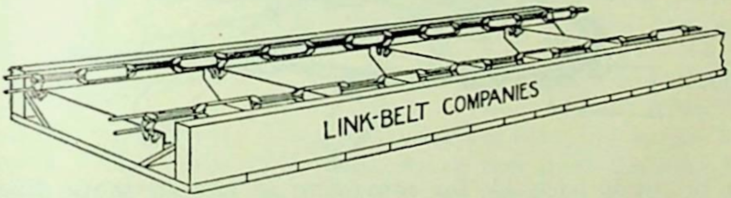
is the simplest and most economical means of lifting water yet designed. It has been in successful operation for the past 15 years in the irrigation districts of the West, and large numbers are used for flooding ponds, marshes, drainage purposes, etc. There are no dead-centers or return strokes, consequently a steady flow is always assured. Simple in construction and easily repaired. For prices and further information see page 171.

The Single Strand Flight Conveyor



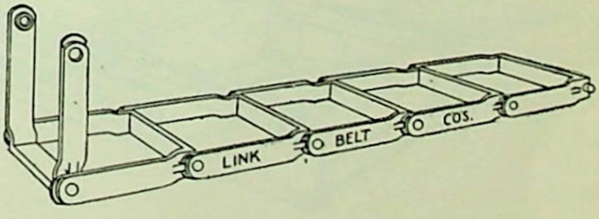
is simple in construction, economical and efficient, requiring little attention or repair. More conveyors of this type are in use than of all others combined.

Double Strand Drag Conveyors



are for rough and ready work in coarse materials, and are usually of very large capacity. We have built them to take thirteen tons of coal per minute from mine car into breaker. See pages 41, 42, 43 and 89.

The No. 550, Block, and Vulcan Chains



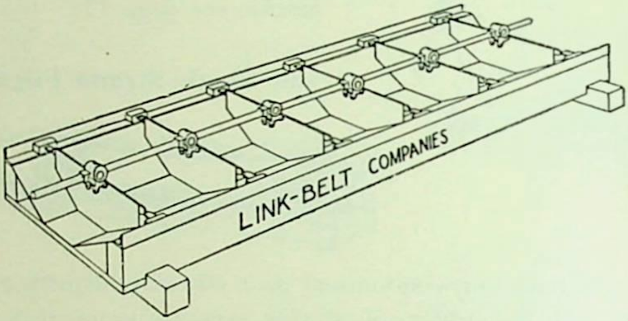
are of the Flightless Conveyor type, and are chiefly used for moving saw-dust, slabs and saw-mill offal.

NOISELESS FLIGHT CONVEYORS.

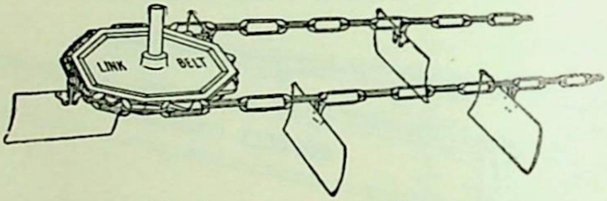
The great increase of steam generation in our closely built up cities, in power-houses and in office buildings, has not only extended the use of fuel conveyors, but established the requirement that they be noiseless in operation. To meet this condition we designed the Suspended Flight Conveyor, which retains the economical advantages of the scraper or flight and yet runs without noise. We have installed many conveyors of this type, and all have been found noiseless and efficient.

The Noiseless Suspended Flight Conveyor is supplied in three styles, following:

Single Strand with Overhead Return.

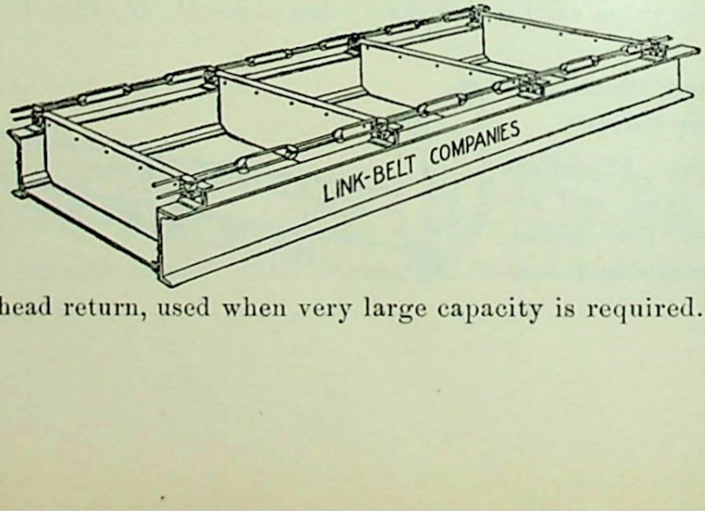


Single Strand Horizontal,



as shown in cut on page 45, for conveying in two or more directions in same plane.

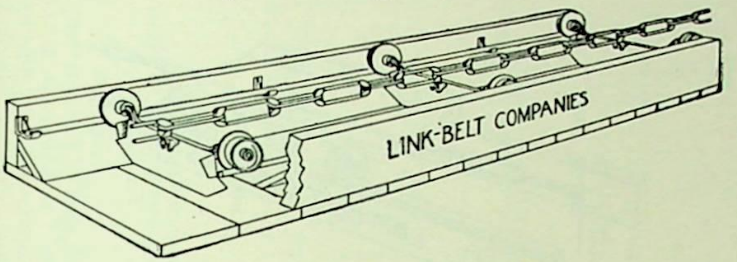
Double Strand,



with overhead return, used when very large capacity is required.

A modification of the

Suspended Flight Conveyor,



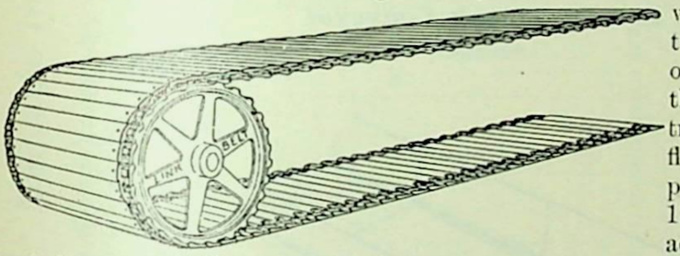
substitutes rolling for sliding friction, and has been found desirable for handling finely divided gritty materials, such as molding sand. We have supplied these conveyors to foundries, glass factories, etc.

CARRIERS.

Under this head, as distinguished from Bulk Elevators and Drag Conveyors, we classify the following:

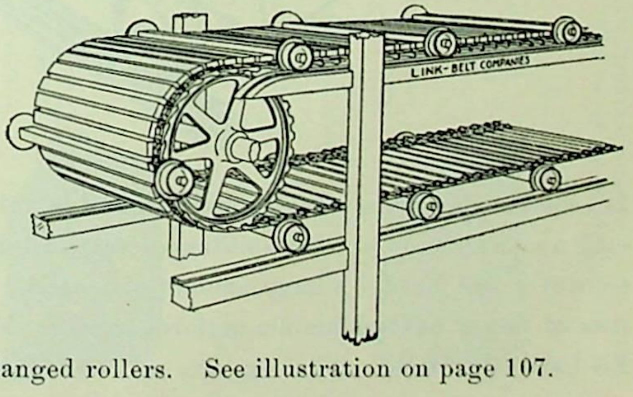
Endless Aprons.

These are made with either one or two strands of Link-Belt or other chain, to which plates or strips are attached, forming a continuous surface. These plates, if of steel, are generally curved to the radius of the sprocket wheels, as in the illustration. When made of wood they present the appearance of a traveling platform or floor. See cuts on pages 10, 11, 12 and 13. Flanged rollers are added when heavy weights are to be moved. They are used for carrying sugar, bagasse, clay, foundry flasks, cases of bottles, boxes and miscellaneous freight. For price list of the Curved slat Conveyor see page 60.

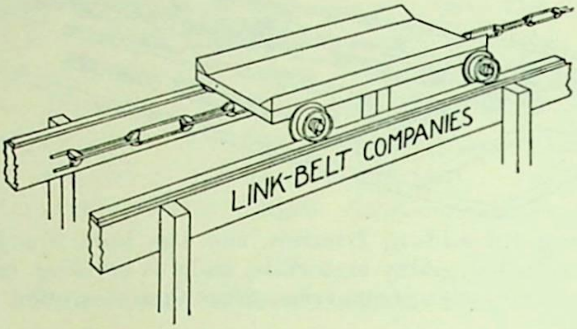


Roller Slat Carriers

Are designed for light cases or packages in canneries, soap factories, packing houses, warehouses, etc. The slats or bars which connect the chains are usually of hardwood and form a traveling grating, which is supported at intervals by flanged rollers. See illustration on page 107.



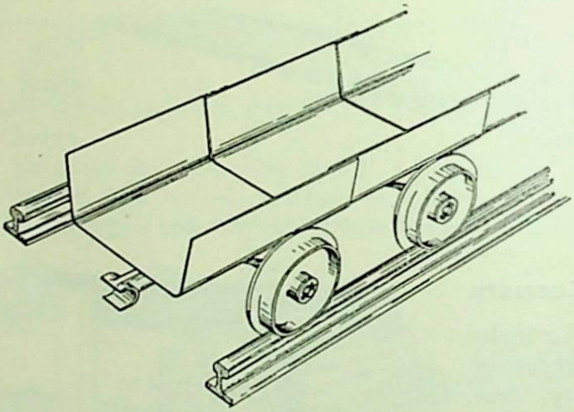
Roll or Barrel Carrier



Consists of four-wheeled trucks running on light rails and attached at intervals to an endless chain. This type is employed to handle a fixed or limited number of rolls (see page 21) or barrels, receiving and delivering them at timed intervals. It is, of course, cheaper than a continuous carrier.

Endless Trough Conveyor

(Patented)

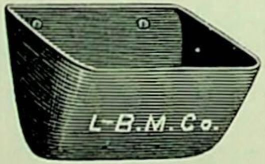


Is a continuous moving trough constructed of metal pans, which overlap in such a manner as to prevent spilling of material handled. This type of Conveyor will handle a large amount of material at a minimum expenditure of power and maintain a uniform supply. We have furnished them for handling cement, clay, slag, ore, etc. See pages 58 and 59.

Malleable Iron Buckets.

Of approved pattern and weight. These Buckets are seamless, strong and smooth, their corners being rounded, insuring free and clean delivery of material. They are made in four styles as shown, A, AA, B and C, and of the sizes given. They are especially desirable for handling coarse and gritty materials, such as ore, broken stone, coal, cement, phosphate, etc., being tougher to stand wear and hard knocks than the so-called steel buckets in the market, which have to be made of a soft grade of steel in order to be worked into shape. No charge is made for punching. In ordering state whether buckets are to be punched for flat belt or link-belt, and, if the latter, give size and number of strands of belt and style of attachment.

The A Bucket is the standard form and the most generally used.

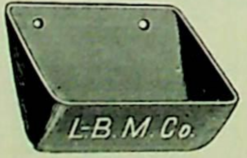


Style A.

PRICE LIST.

Length	Width	Depth	Capacity, Cubic Inches	Price
4	2¾	2½	13	$0 20
5	3½	3	25	35
6	4	3½	50	45
7	4½	4	60	55
8	5	4	108	65
10	6	5	160	90
11	6	5	230	1 00
12	7	5½	300	1 25
14	7	5½	350	1 75
14	8	6	480	2 00
16	8	7	650	3 00
18	10	7	1175	4 00

The shape of the B Bucket is favorable for use in Inclined Elevators and handling coarsely broken materials.

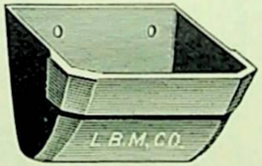


Style B.

PRICE LIST.

Length	Width	Depth	Capacity Cubic Inches	Price
4	1½	1	4	$0 15
8	3½	2½	48	50
10	4	3	60	70
12	5½	4	135	90
16	6½	5	480	2 25

AA has heavy reinforced front edges and corners, which increase the life of the bucket in handling material of a siliceous nature.

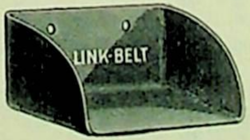


Style AA.

PRICE LIST.

Length	Width	Depth	Capacity, Cubic Inches	Price
8	5	4	108	$0 80
10	6	5	160	1 10
11	6	5	230	1 25
12	7	5½	300	1 50

The C is designed for handling clay, sugar, finely pulverized ores, and such materials as would stick or pack in the other types of buckets.

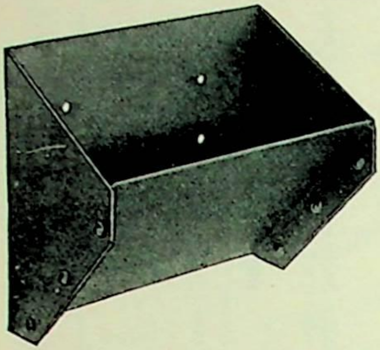


Style C.

PRICE LIST.

Length	Width	Depth	apacity, Cubic Inches	Price
8	4½	4	84	$0 50
10	5	4	120	70
12	5	4	144	90
16	7	5½	380	1 80

In addition to the above standard sizes, we have a large number of patterns of special malleable Buckets, and shall be pleased to figure upon any size or style other than those listed, if wanted in quantity.



Steel Elevator Bucket.

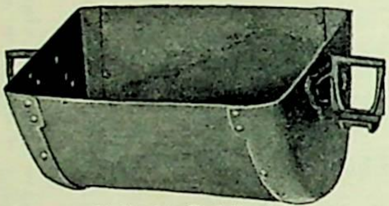
This type of Bucket is made of heavy steel-plate, very strong, and admirably adapted for handling coal, rock, ore, or any rough material in large quantities and under severe conditions.

Special sizes, shapes and thicknesses made to order, prices for which will be quoted upon application.

Price List of No. 10 Steel Riveted Buckets.

Length.	11¾ Inches Deep.			16¼ Inches Deep.	
	8 ins. Wide.	9 ins. Wide.	10 ins. Wide.	10 ins. Wide.	12 ins. Wide.
12 inches.	$1 55	$1 60	$1 65	$1 90	$2 05
14 "	1 60	1 65	1 70	2 05	2 15
16 "	1 75	1 80	1 90	2 25	2 35
18 "	1 85	1 90	2 00	2 30	2 45
20 "	1 95	2 00	2 10	2 40	2 55
24 "	2 20	2 25	2 35	2 80	2 95
30 "	2 50	2 55	2 70	3 15	3 30

For Angle Iron Guides add 50 cents per Bucket net.



Malleable End Bucket.

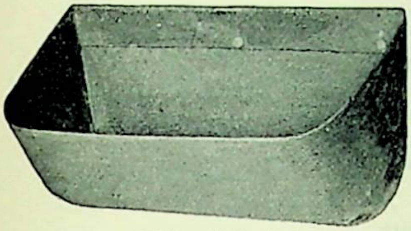
Malleable End Buckets

Have bodies made of a single sheet of steel, securely riveted to heavy malleable iron ends, which protect the body and strengthen the corners. These Buckets have high backs and greater width than the ordinary forms, giving them large carrying capacity. They are especially adapted to the G attachments as employed in Centrally Hung and Perfect Discharge Elevators

Price List.

Size	12×7	14×7	16×7	18×7	20×7	12×8	14×8	16×8	18×8	20×8	24×8
Capacity in cu. ins.	340	400	460	510	560	430	500	575	630	720	790
Capacity in quarts	5	6	7	7⅔	8⅓	6½	7½	8½	9¾	10½	12
No. of metal in body	18	18	16	16	16	16	16	16	14	14	14
Price	$1 60	1 65	1 75	1 85	1 95	1 90	2 00	2 10	2 25	2 40	2 70

Size	30×8	36×8	12×9	14 9	16×9	18×9	20×9	24×9	30×9	36×9	
Capacity in cu. ins.	1080	1200	500	585	670	750	830	1000	1250	1500	
Capacity in quarts	16	17¾	7½	8⅔	10	11	12⅓	15	18	22¼	
No. of metal in body	14	14	16	16	16	14	14	14	14	14	
Price	$3 10	3 50	2 30	2 40	2 50	2 70	2 85	3 10	3 40	3 70	

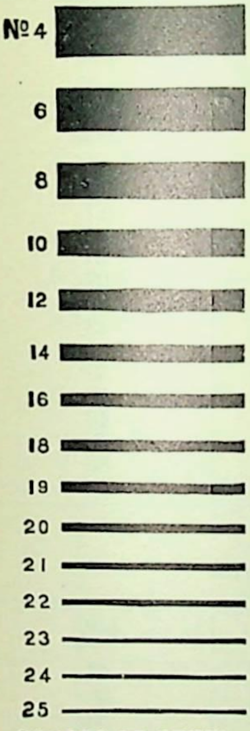


“Salem” Bucket.

“Salem” Buckets

Are light, strong, made entirely of steel, and well adapted to handle smooth, finely divided loose material, as grain, etc., etc.

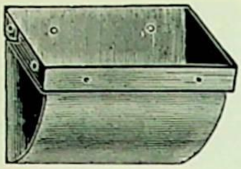
Revised Price List.



GAUGES OF STEEL
used on Salem Buckets

Capacity: bushels per hour 200 ft. per min. 12 ins. apart.	Size of Bucket.		Suitable for ordinary Mill and Elevator Work.		Ear Corn and Similar Heavy Substances.	
	Width.	Projection.	Gauge of Steel used.	Price.	Gauge of Steel used.	Price.
21	2	x 2 in.	No. 25	$ 05	No. 18	$ 13
40	2½	x 2¼ “	“ 24	05	“ 18	13
59	3	x 2½ “	“ 24	06	“ 18	15
69	3½	x 2½ “	“ 24	06	“ 18	15
87	3	x 3 “	“ 23	07	“ 18	18
102	3½	x 3 “	“ 23	07	“ 18	18
116	4	x 3 “	“ 23	08	“ 18	20
131	4½	x 3 “	“ 23	08	“ 18	20
159	4	x 3½ “	“ 22	09	“ 18	21
179	4½	x 3½ “	“ 22	10	“ 18	22
199	5	x 3½ “	“ 22	10	“ 18	22
229	5	x 4 “	“ 22	11	“ 18	24
251	5½	x 4 “	“ 21	12	“ 18	25
274	6	x 4 “	“ 21	12	“ 18	25
500	7	x 4½ “	“ 20	16	“ 18	35
670	8	x 5 “	“ 19	20	“ 16	43
754	9	x 5 “	“ 19	23	“ 16	44
973	10	x 5½ “	“ 19	29	“ 16	53
1220	10	x 6 “	“ 18	39	“ 16	57
1342	11	x 6 “	“ 18	39	“ 16	57
1464	12	x 6 “	“ 18	40	“ 16	58
1708	14	x 6 “	“ 18	47	“ 16	67
1952	16	x 6 “	“ 18	48	“ 16	71
2196	18	x 6 “	“ 18	60	“ 16	74
2440	20	x 6 “	“ 18	65	“ 16	77
1590	10	x 7 “	“ 18	40	“ 16	60
1749	11	x 7 “	“ 18	45	“ 16	62
1908	12	x 7 “	“ 18	50	“ 16	64
2226	14	x 7 “	“ 18	58	“ 16	74
2544	16	x 7 “	“ 18	65	“ 16	77
2862	18	x 7 “	“ 18	75	“ 16	93
3180	20	x 7 “	“ 18	79	“ 16	96
3184	16	x 8 “	“ 18	80	“ 16	98
3582	18	x 8 “	“ 18	85	“ 16	1 02
3980	20	x 8 “	“ 18	90	“ 16	1 08
4378	22	x 8 “	“ 18	93	“ 16	1 11
4776	24	x 8 “	“ 18	97	“ 16	1 15

Price list of heavier gauge Salem Buckets sent upon application.



Tin Mill Buckets.

Across Belt.		Projection.	Capacity Pints.	List. Cents.	Across Belt.		Projection.	Capacity Pints.	List. Cents.
2	x	2	1/6	6	4	x	3½	⅞	12
2½	x	2¼	¼	7	4½	x	3½	1	13
3	x	3	⅖	8	5	x	4	1½	15
3½	x	3	½	9	5½	x	4	1⅔	16
3½	x	3½	⅗	10	6	x	4	1¾	17
4	x	3	⅔	11					

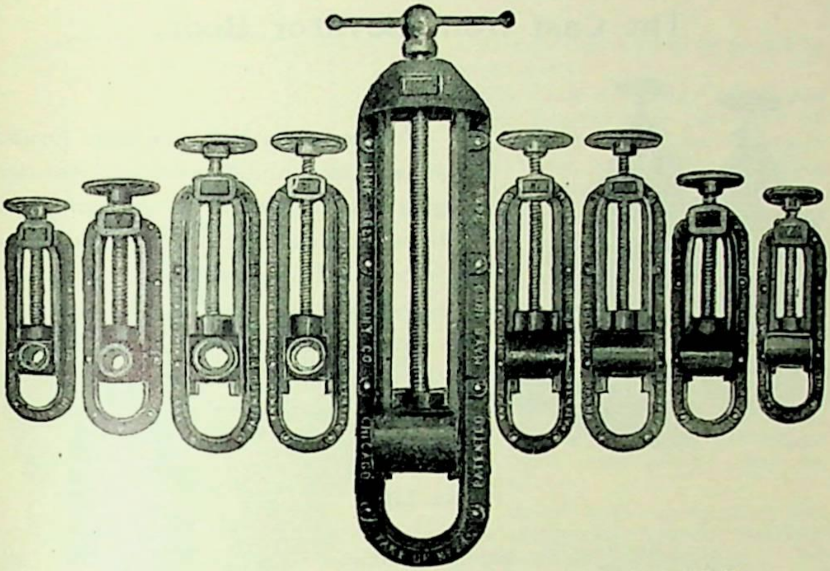
Square Corner Steel Grain Buckets.

Across Belt.		Projection.	No. of Bolt Holes.	Capacity.	List Cents.
5	x	4	2	1½ pints.	15
5½	x	4	2	1⅔ "	16
6	x	4	2	1¾ "	17
7	x	4½	2	2⅔ "	21
8	x	5	3	3⅓ "	25
9	x	5	3	2 quarts.	27
10	x	5½	3	3 "	30
11	x	6	4	3½ "	33
12	x	6	4	4 "	36
13	x	6	4	4¼ "	39
14	x	6	4	4½ "	42
15	x	6	4	4¾ "	46
16	x	6	6	5 "	50
18	x	6	6	6 "	60
20	x	6	6	1 peck.	65

Square Corner Heavy Steel Corn Buckets.

Across Belt.		Projection.	No. of Bolt Holes.	Capacity, Quarts.	List. Cents.
7	x	5	3	1½	27
8	x	5½	3	2	30
9	x	6	3	2½	33
10	x	6	3	3	36
11	x	7	4	3½	44
12	x	7	4	4	48
13	x	7	4	4½	52
14	x	7	4	5	54
15	x	7	5	5½	58
16	x	7	5	6	62
18	x	7	6	7	66
20	x	7	6	9	70

" Take=Ups."



Style "**A.**" Style "**B.**"

Style A box passes through frame. Style B box sets above frame.

Sizes above No. 20 have handles instead of hand wheels.

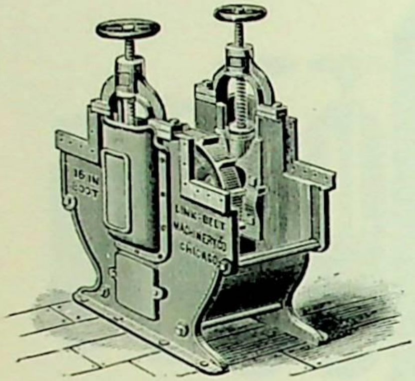
PRICE LIST.

No. of Frame.	Diameter of Shaft.	Price Each, A or B.	No. of Frame.	Diameter of Shaft.	Price Each, A or B.
4	$\frac{11}{16}$	$1 75	20	$2\frac{7}{16}$	$ 9 00
4	$\frac{13}{16}$	1 90	20	$2\frac{9}{16}$	9 50
4	$\frac{15}{16}$	2 00	20	$2\frac{11}{16}$	10 00
5	$1\frac{3}{16}$	2 55	20	$2\frac{13}{16}$	11 00
5	$1\frac{5}{16}$	2 70	24	$2\frac{15}{16}$	13 50
7	$1\frac{7}{16}$	3 25	24	$3\frac{7}{16}$	14 00
7	$1\frac{9}{16}$	3 50	24	$3\frac{15}{16}$	15 00
7	$1\frac{11}{16}$	4 00	36	$2\frac{15}{16}$	19 00
9	$1\frac{15}{16}$	4 75	36	$3\frac{7}{16}$	19 50
9	$2\frac{3}{16}$	5 00	36	$3\frac{15}{16}$	20 00
12	$2\frac{3}{16}$	6 00	48	$3\frac{15}{16}$	35 00
12	$2\frac{5}{16}$	6 25	60	$3\frac{15}{16}$	40 00
12	$2\frac{7}{16}$	6 75	72	$4\frac{7}{16}$	50 00

NOTE.—In ordering, give diameter of shaft for which Take-Up is desired.

The number of the Take-Up indicates its length of adjustment in inches.

The Cast Iron Elevator Boot.



The Cast Iron Elevator Boot furnishes a substantial foundation for the elevator legging; has babbitted self-adjusting take-up boxes, side cleaning doors and other modern features of construction. Supplied with sprocket wheels or pulleys as desired.

Number of Boot indicates approximately the diameter of wheel or pulley used.

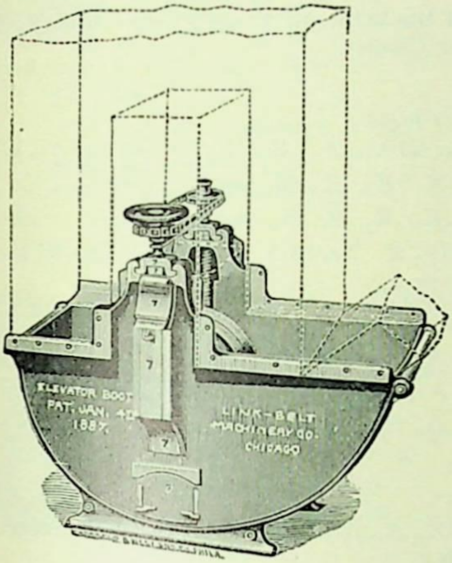
Price List.

Number of Boot.	Length of Bucket.	Maximum Face of Pulley.	Price of Boot Complete.
	Inches.	Inches.	
10	4	5	$17 00
10	5	6	18 00
12	5	6	20 00
12	6	7	22 00
12	7	8	24 00
14	6	7	28 00
14	7	8	29 50
14	8	9	31 00
16	8	9	33 00
16	9	10	34 00
16	10	11	35 00
16	12	13	37 00
18	8	9	40 00
18	10	11	42 00
18	12	13	$44 00
18	14	15	47 00
20	10	11	52 00
20	12	13	54 50
20	14	15	56 50
20	16	17	58 50
20	18	19	60 50
20	20	21	63 00
24	12	13	72 00
24	14	15	75 00
24	16	17	78 00
24	18	19	81 00
24	20	21	84 00

The Link-Belt Safety Elevator Boot

(PATENTED)

Is Especially Valuable in Handling Coarse and Gritty Materials.



It has the following points of superiority:

The chute end, being longer and wider than the back, gives free escape for loaded buckets, effectually preventing jamming or breaking of material.

Take-up screws are connected by Ewart Link-Belting, insuring the same movement up and down of both ends of the shaft.

Hollow take-up screws, through which oil is carried to the bearings, allowing the boot to be —

Entirely closed, and practically dust-tight.

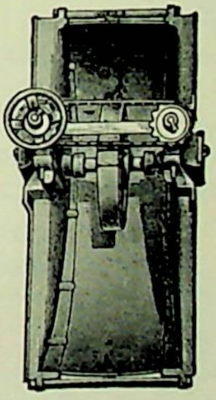
Tight cleaning doors, having *no bolts*, and consequently easy to remove.

A safety device for securing the nuts of the take-up screws, making serious breakage impossible.

Price List of Safety Elevator Boots.

Complete with Wheel or Pulley.

No.	Size of Bucket.	Diameter of Boot Wheel.	Price, Complete.
5	4x 3	14	$20 00
5	5x 4	12½	21 00
5	6x 4	12½	22 00
7	7x 4½	18½	35 00
7	8x 5	16¾	36 00
7	"B" 10x 4	16¾	38 00
7	10x 6	15½	39 00
7	"B" 12x 5½	16¾	40 00
9	12x 7	17¼	55 00
9	14x 7	17¼	58 00
12	12x 7	20	80 00
12	14x 7	20	82 00
12	14x 9	18	83 00
12	16x10	17½	84 00
12	18x10	17½	85 00
15	20x10	29	114 00
15	24x10	29	116 00
15	30x10	29	120 00
18	20x12	36	150 00
18	24x12	36	155 00
18	30x12	36	160 00



Bolts for Elevators and Conveyors

Used for Standard Steel Flights and Buckets, on Ewart, Ley, Dodge and Monobar Chains.

SIZE OF BOLTS.	ATTACHMENT LINKS.
3/16" x 1/2"—	No. 32 A$_{12}$, A$_{19}$, E$_1$, K$_5$, K$_6$ No. 33 A$_{13}$, A$_{14}$, K$_5$, K$_6$, S$_1$ No. 34 A$_1$, E$_1$ No. 35 C$_1$, E$_1$, K$_1$, S$_1$ No. 42 K$_1$, K$_3$, K$_6$, S$_1$, S$_3$ No. 45 A$_3$, C$_1$, E$_1$, F$_2$, G$_1$, K$_1$, K$_3$, K$_5$, S$_1$, S$_4$, S$_6$ No. 51 A$_1$, K$_1$ No. 52 E$_1$, F$_2$, G$_1$, K$_1$ No. 55 A$_1$, F$_2$, K$_1$, S$_1$ No. 57 K$_{22}$, S$_2$ No. 62 K$_1$, K$_5$ No. 67 S$_2$ No. 77 S$_2$
1/4" x 5/8"—	No. 33 A$_6$ No. 34 C$_1$ No. 35 A$_1$, K$_5$ No. 42 A$_1$, A$_{36}$, C$_1$, K$_5$ No. 45 A$_1$ No. 52 K$_5$ No. 57 A$_1$, E$_1$, F$_2$, K$_1$ No. 62 A$_1$ No. 67 A$_1$, A$_7$, A$_{11}$, E$_1$, F$_2$, FF K$_1$ No. 75 E$_1$ No. 77 A$_1$, A$_{23}$, E$_1$, G$_1$, G$_6$, K$_1$ No. 78 G$_1$, G$_6$, K$_1$, S$_2$ No. 83 E$_1$ No. 88 G$_1$, G$_6$, S$_2$
1/4" x 3/4"—	No. 103 A$_{11}$, G$_6$
5/16" x 3/4"—	No. 42 A$_6$ No. 77 F$_2$ No. 78 A$_3$, A$_7$, A$_{11}$, E$_1$, F$_2$, FF, G$_{19}$ No. 85 K$_2$ No. 88 A$_7$, F$_2$, FF, K$_1$ No. 823 G$_6$
5/16" x 1" —	No. 825 A$_{38}$, A$_{42}$ Bracket.
3/8" x 3/4"—	No. 83 G$_1$ No. 93 G$_1$ No. 95 K$_2$ No. 103 K$_1$
3/8" x 1" —	No. 85 F$_2$ No. 88 F$_8$ No. 103 A$_4$, A$_5$, F$_2$, F$_7$, F$_8$ No. 105 K$_2$ No. 108 F$_2$, FF, G$_1$, K$_2$ No. 114 F$_8$, G$_6$ No. 122 F$_2$, K$_2$ No. 124 A$_4$, G$_1$, G$_6$ No. 146 K$_2$ No. 730 F$_2$, G$_6$ No. 823 K$_2$ No. 825 F$_2$, FF, G$_6$, 1/2" Dodge F$_4$, K$_2$, 5/8" Dodge F$_4$, K$_2$ 3/4" Dodge F$_3$, 3/4" Monobar F$_2$, G$_{13}$, 1" Monobar F$_2$, G$_{13}$
3/8" x1 3/4"—	1/2" and 5/8" Dodge A$_1$
1/2" x 1" —	No. 103 E$_1$ No. 114 K$_1$
1/2" x1 1/4"—	No. 124 F$_8$ No. 160 K$_2$ No. 730 K$_2$, 825 G$_1$, K$_1$, K$_2$ No. 840 K$_2$, K$_4$, 3/4" Dodge K$_2$, 1 1/4" Monobar F$_2$, G$_{13}$ 1 1/2" Monobar F$_2$, G$_{13}$
5/8" x2 1/4"—	No. 825 A$_{42}$

NOTE—When Special Flights or Buckets are used, the length of the Bolts should be increased accordingly.

Elevator Bolts.

Button Head.

BUTTON HEAD BOLTS.

For Attaching Elevator Buckets to Link-Belting.

3-16 in. x ½ in. per 100	$1 00
3-16 in. x ⅝ in. per 100	1 00
¼ in. x ⅝ in. per 100	1 25
¼ in. x ¾ in. per 100	1 25

SQUARE HEAD BOLTS.

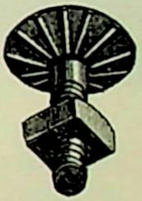
¼ in. x ¾ in. per 100	$1 50
⅜ in x ¾ in. per 100	2 00
⅜ in. x 1 in. per 100	2 00

CARRIAGE BOLTS.

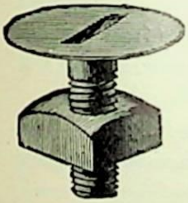
¼ in. x 1½ in. per 100	$ 3 20
5-16 in. x 1½ in. per 100	4 00
⅜ in. x 1¾ in. per 100	5 00
⅜ in. x 2 in. per 100	5 25
⅜ in. x 2½ in. per 100	5 40
½ in. x 2 in. per 100	9 00
⅝ in. x 2 in. per 100	12 00

CORRUGATED BELT BOLTS.

¼ in. x ½ in. per 100	$1 00
¼ in. x ⅝ in. per 100	1 00
¼ in. x ¾ in. per 100	1 00
¼ in. x 1 in. per 100	1 25



Corrugated.

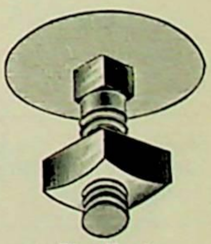


ECLIPSE BOLTS.

¼ in. x ½ in. per 100	$1 00
¼ in. x ⅝ in. per 100	1 00
¼ in. x ¾ in. per 100	1 00
¼ in. x 1 in. per 100	1 25

FLAT HEAD, WROUGHT IRON BOLTS.

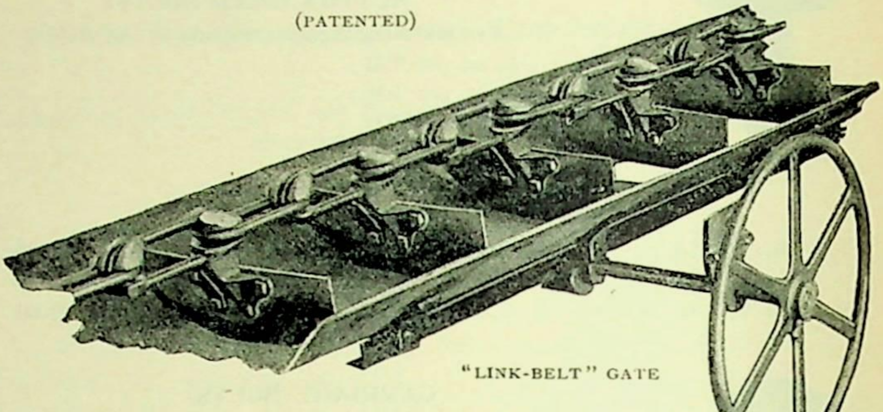
3-16 in. x ⅝ in. per 100	$2 20
3-16 in. x ¾ in. per 100	2 20
3 16 in. x 1 in. per 100	2 20
¼ in. x ¾ in. per 100	2 20
¼ in. x ⅞ in. per 100	2 20
¼ in. x 1 in. per 100	2 20
¼ in. x 1¼ in. per 100	2 80
¼ in. x 1½ in. per 100	2 80
5-16 in. x 1 in. per 100	3 30
5-16 in. x 1¼ in. per 100	3 30
5-16 in. x 1½ in. per 100	3 30



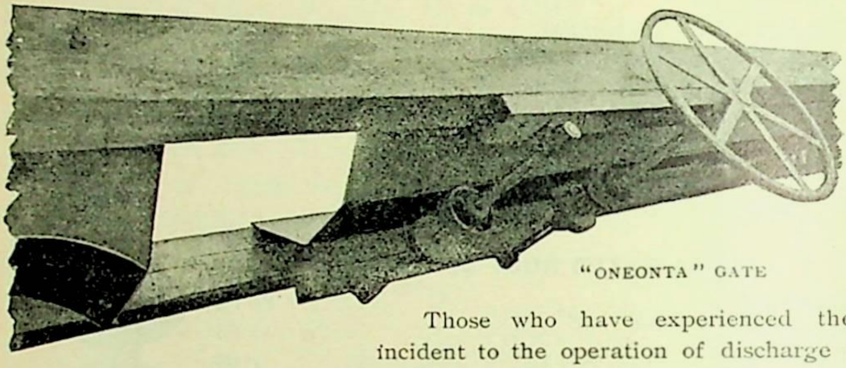
Flat Head.

Discharge Gates for Conveyors

(PATENTED)



"LINK-BELT" GATE



"ONEONTA" GATE

Those who have experienced the difficulties incident to the operation of discharge gates of the ordinary types will recognize the advantages of these improved forms, which are the best that have been devised for their respective purposes. The "Oneonta" Gate will discharge lump material of any size that it is possible to convey, as the separation of the trough is complete from side to side, the flights being guided into the trough after passing the opening by the bell mouth.

The "Link-Belt" Gate is thoroughly efficient in handling fine material and moderate sized lumps, and is constructed to be operated with rack and pinion, the same as the "Oneonta" Gate.

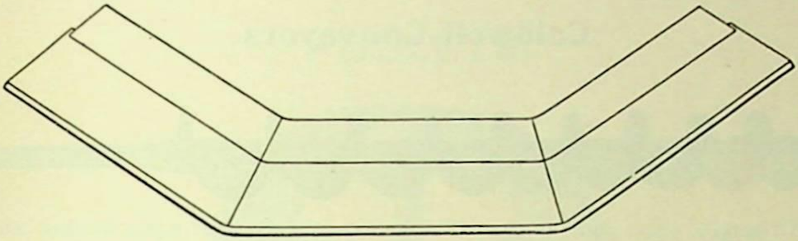
Both forms of gates can be opened and closed while the Conveyor is in operation, which is a very desirable feature effecting a great saving of time.

Price List.

Size	4 x 10	4 x 12	5 x 10	5 x 12	5 x 15	6 x 12	6 x 18	8 x 18	8 x 20	8 x 24
Link-Belt Gate	$13 00	$13 50	$13 00	$13 50	$15 00	$14 00	$15 50	$16 50	$18 50	$21 00
Oneonta Gate							45 00	48 00	50 00	52 00

Price of Troughs to be added.

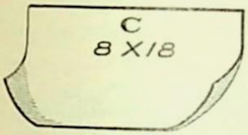
CONVEYOR TROUGH.

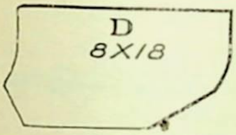


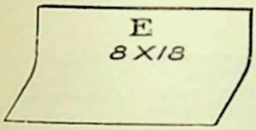
The Standard Trough is made in sections and joined by buttstraps. It is absolutely true and flat on the bottom and sides, insuring uniform wear over its surface, and making it the most durable conveyor trough ever placed on the market. The sections can easily be handled by one man.

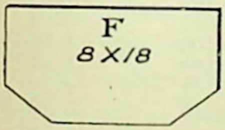
Price List of Trough.

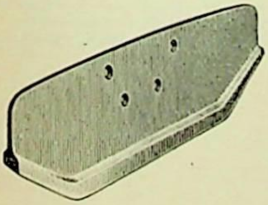
Size of Flight	Price per Foot	Size of Flight	Price per Foot
4 x 10	$ 55	6 x 16	$ 75
4 x 12	60	6 x 18	85
5 x 10	65	8 x 18	1 00
5 x 12	65	8 x 20	1 25
5 x 15	70	8 x 24	1 45











CONVEYOR FLIGHTS.

All our Steel Flights are drop-forged in dies, and have all holes punched at one operation, making them uniform.

The curves are those which have been adopted after several years of experience. The style C is curved in both its surface dimensions, thereby making a noiseless and strong scraper.

Price List Steel Flights.

Style C, D, E, F, or Plain Scrapers.

Size	Price	Size	Price
4 x 10	$0 20	6 x 16	$0 35
4 x 12	22	6 x 18	40
5 x 10	23	8 x 18	60
5 x 12	25	8 x 20	65
5 x 15	30	8 x 24	75

Malleable Iron Flights are stiff and strong, and have thickened wearing edges greatly increasing durability.

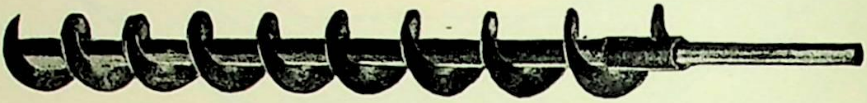
Price List Malleable Iron Flights.

Size	Price	Size	Price.
4 x 10	$0 25	6 x 18	$0 67
4 x 12	28	8 x 18	74
5 x 10	32	8 x 20	1 00
5 x 12	43	8 x 24	1 25
5 x 15	46		

Wearing Shoes for Flights (for sliding on Return Guides) either riveted on or with bolts, per flight 15 cents.

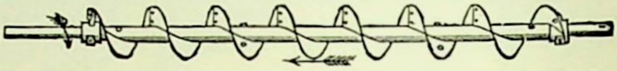
Bolts, for securing flights to Monobar, per hundred $2.00.

Caldwell Conveyors.

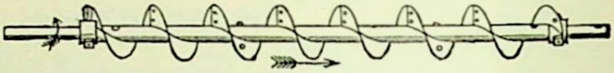


We supply, upon short notice, this Conveyor mounted upon hollow shafts, as shown above, or with extra heavy flights mounted upon a solid shaft and with fittings to match. Order by the letter and name indicated below.

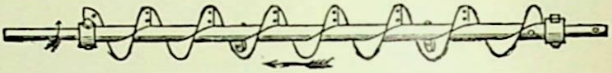
A.—Right hand...........



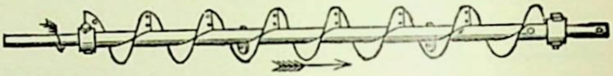
B.—Right hand...........



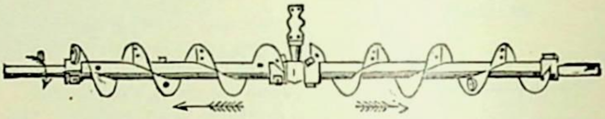
C.—Left hand............



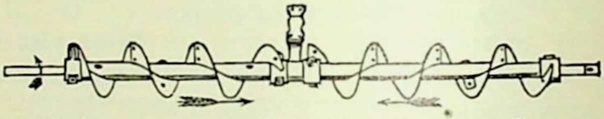
D.—Left hand............



E.—Right and Left hand...



F.—Right and Left hand...

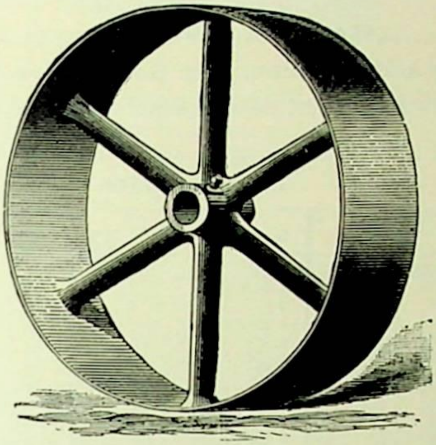


Price List of Caldwell Conveyor as Usually Made and Mounted on Hollow Shafts

Diam. in Inches.	Standard Length.	Inside Diameter of Hollow Shaft.	Maximum Speed.	Capacity per Hour.	Price, Per Foot, Steel Flights.	Price, Per Foot, Galvanized Iron.
4	8 feet.	1 inch.	100	100	$1.00	$1.28
6	10 "	1½ "	140	300	1.67	2.03
9	10 "	1½ "	150	1,000	2.00	2.68
12	12 "	2 "	160	2,000	2.80	3.48
16	12 "	2 "	160	3,000	3.75	4.83
16	12 "	3 "	160	4,000	5.08	6.38
18	12 "	3 "	160	5,000	6.15	7.79

These prices include Hangers, Curved Sheet-iron Lining, Couplings and Bolts, complete. If Hangers or Linings are not desired, deduct for either, per foot of Conveyor: 4-inch, 2½c.; 6-inch. 3½c.; 9-inch, 5c.; 12-inch, 10c.; 16-inch, 15c.; 18-inch, 20c.

PULLEYS.



Our Pulleys are machine moulded, bored, and turned in the lathe, carefully balanced, are made either straight or crowning face, and are provided with set screws or key seat, as desired.

The tight and loose Pulleys should have crowning faces, and the driving Pulleys for shifting belts should have straight faces.

To save time, in ordering please give full particulars, stating diameter, width, and kind of face, single or double belt, bore, set screw or key seat, and if anything special is desired, as tight and loose, flanged or split, thus:

One 20-inch diameter, 4-inch straight face, single belt, *Split* Pulley, $1\frac{7}{8}$-inch bore, key seat.

OR,

One 20-inch diameter, 4-inch crowning face, double belt Pulley, $1\frac{7}{8}$-inch bore, set screw.

OR,

One pair 20-inch diameter, 4-inch crowning face, single belt Pulleys, $1\frac{7}{8}$-inch bore. Tight and loose.

When orders are received and no description given, crowning face, single belt Pulleys will be furnished. Prices for special sizes not mentioned in the list will be quoted upon application. Prices of Split, Tight and Loose, and Flanged Pulleys given on page 250.

PRICE LIST OF

SINGLE BELT PULLEYS.

MACHINE MOULDED.

Bored, Turned and Balanced, with Set Screws or Key Seats.

NOTE.—Heavy line indicates LIMIT, beyond which we do not make crown face pulleys without extra charge.

Diameter in Inches.	FACE IN INCHES.															
	3	4	5	6	7	8	9	10	11	12	14	16	18	20	22	24
6	$ 1 95	$ 2 10	$ 2 30	$ 2 55	$ 2 80	$ 3 05	$ 3 30									
7	2 10	2 25	2 50	2 75	3 00	3 25	3 55	$ 3 85								
8	2 25	2 45	2 70	2 95	3 20	3 45	3 80	4 15								
9	2 40	2 60	2 85	3 15	3 45	3 75	4 10	4 45								
10	2 55	2 75	3 05	3 40	3 70	4 05	4 40	4 75	$ 5 10							
11	2 70	2 95	3 25	3 60	3 95	4 35	4 65	5 05	5 40							
12	2 85	3 15	3 50	3 85	4 20	4 55	4 95	5 35	5 75	$ 6 20						
13	3 05	3 35	3 70	4 10	4 45	4 90	5 25	5 70	6 15	6 60						
14	3 25	3 55	3 90	4 35	4 70	5 20	5 60	6 10	6 55	7 05	$ 8 25					
15	3 40	3 75	4 15	4 60	5 05	5 50	5 95	6 45	6 95	7 50	8 75					
16	3 60	3 95	4 40	4 90	5 35	5 85	6 30	6 85	7 40	8 00	9 40	$10 90				
17	3 80	4 20	4 70	5 20	5 70	6 20	6 75	7 30	7 90	8 50	10 05	11 70				
18	4 00	4 45	4 95	5 50	6 05	6 60	7 15	7 75	8 40	9 10	10 80	12 60				
19	4 25	4 70	5 25	5 85	6 45	7 05	7 65	8 30	9 00	9 75	11 60	13 55				
20	4 45	4 95	5 55	6 20	6·85	7 50	8 15	8 85	9 60	10 40	12 40	14 50	$16 60			
21	4 70	5 25	5 85	6 55	7 25	7 95	8 65	9 40	10 20	11 05	13 20	15 45	17 60			
22	4 90	5 55	6 15	6 90	7 65	8 40	9 15	9 95	10 80	11 70	14 05	16 40	18 75			
23	5 15	5 80	6 50	7 25	8 05	8 85	9 65	10 50	11 45	12 40	14 85	17 35	19 85			
24	5 40	6 10	6 85	7 65	8 45	9 30	10 20	11 10	12 10	13 15	15 70	18 30	21 00			
25	5 70	6 50	7 25	8 10	8 95	9 90	10 85	11 85	12 90	14 05	16 65	19 35	22 15			
26	6 00	6 90	7 65	8 60	9 45	10 55	11 50	12 60	13 75	15 00	17 65	20 40	23 30	$26 30		
27	6 35	7 30	8 15	9 05	10 00	11 10	12 20	13 35	14 60	15 90	18 60	21 45	21 50	27 55		
28	6 75	7 70	8 50	9 50	10 60	11 70	12 90	14 10	15 45	16 85	19 55	22 50	25 65	28 80	$32 00	
29	7 25	8 10	9 00	10 00	11 15	12 35	13 60	14 90	16 30	17 70	20 55	23 60	26 80	30 10	33 40	
30	7 60	8 55	9 45	10 55	11 75	13 00	14 30	15 75	17 15	18 60	21 55	24 70	28 00	31 40	34 80	
31	8 05	8 95	9 95	11 10	12 35	13 70	15 10	16 55	18 05	19 55	22 60	25 85	29 25	32 75	36 10	
32	8 45	9 40	10 45	11 65	12 95	14 40	15 90	17 40	19 00	20 55	23 70	27 05	30 55	34 15	38 40	
33	8 90	9 90	11 00	12 25	13 60	15 05	16 70	18 25	19 90	21 50	24 80	28 25	31 80	35 50	39 70	
34	9 40	10 40	11 50	12 90	14 35	15 85	17 55	19 10	20 85	22 50	25 90	29 45	33 10	36 95	41 05	
35	9 90	10 90	12 10	13 50	15 00	16 60	18 25	19 95	21 75	23 50	27 00	30 65	34 40	38 30	42 35	$46 10
36	10 40	11 40	12 65	14 10	15 70	17 35	19 10	20 85	22 70	24 50	28 10	31 85	35 70	39 70	43 70	47 70
38		12 55	13 95	15 60	17 95	19 05	20 90	22 80	24 75	26 65	30 50	34 45	38 50	42 80	47 10	51 45
40		13 70	15 30	17 10	18 90	20 80	22 75	24 75	26 80	28 80	32 90	37 10	41 35	45 90	50 55	55 25
42		14 90	16 70	18 60	20 55	22 55	24 60	26 70	28 85	31 00	35 30	39 70	44 20	49 00	54 00	59 00
44		16 25	18 20	20 25	22 30	24 45	26 60	28 80	31 10	33 40	37 90	42 70	47 55	52 60	58 00	63 30
46		17 65	19 70	21 85	24 05	26 35	28 60	30 95	33 40	35 80	40 60	45 70	50 90	56 30	62 00	67 60
48		19 00	21 20	23 50	25 85	28 25	30 65	33 15	35 70	38 20	43 30	48 70	54 20	60 00	66 00	72 00
50			22 80	25 30	27 75	30 25	32 80	35 45	38 10	40 80	46 20	52 00	57 95	64 00	70 40	76 85
52			24 50	27 10	29 65	32 30	35 00	37 75	40 50	43 40	49 20	55 30	61 75	68 10	74 80	81 70
54			26 20	28 90	31 65	34 40	37 20	40 05	43 00	46 00	52 20	58 70	65 50	72 20	79 30	86 50
56				30 85	33 55	36 30	39 25	42 25	45 45	48 75	55 40	62 30	69 50	76 60	84 15	91 80
58				32 80	35 50	38 35	41 35	44 55	47 95	51 50	58 60	65 90	73 50	81 00	89 05	97 15
60				34 80	37 50	40 35	43 45	46 85	50 45	54 20	61 80	69 60	77 50	85 50	93 95	102 50
	3	4	5	6	7	8	9	10	11	12	14	16	18	20	22	24

Intermediate widths of Face at next higher price.
Intermediate Diameters at extra prices.
For Split, Tight and Loose, and Flanged Pulleys, see additional prices on page 250.

PRICE LIST OF

DOUBLE BELT PULLEYS.

MACHINE MOULDED.

Bored, Turned and Balanced, with Set Screws or Key Seats.

NOTE.—These Pulleys are made either straight or crown face in sizes here given.

Diam. in Inches.	FACE IN INCHES.																
	5	6	7	8	9	10	11	12	14	16	18	20	22	24	26	28	30
10	$ 4 10	$ 4 55	$ 5 00	$ 5 50	$ 6 00	$ 6 55	$ 7 10	$ 7 65									
12	4 70	5 25	5 80	6 35	6 95	7 55	8 15	8 75	$10 10								
14	5 30	5 95	6 55	7 20	7 90	8 60	9 30	10 00	11 60								
16	6 00	6 70	7 45	8 20	9 00	9 90	10 60	11 45	13 25	$15 15							
18	6 75	7 60	8 45	9 30	10 20	11 10	12 05	13 05	15 10	17 20							
20	7 55	8 60	9 60	10 60	11 70	12 80	13 90	15 00	17 40	19 80	$22 40						
22	8 45	9 60	10 80	12 00	13 20	14 50	15 75	17 00	19 70	22 40	25 40						
24	9 35	10 65	12 00	13 40	14 80	16 20	17 65	19 00	22 00	25 10	28 40						
26	10 45	11 90	13 40	14 90	16 40	18 00	19 60	21 10	24 55	28 10	31 80	$35 55					
28	11 55	13 15	14 80	16 40	18 05	19 80	21 60	23 30	27 10	31 10	35 25	39 45	$43 75				
30	12 70	14 55	16 20	18 00	19 80	21 60	23 50	25 50	29 70	34 20	38 70	43 25	47 80				
32	14 10	16 05	17 90	19 85	22 20	23 85	25 90	28 00	32 65	37 45	42 30	47 45	52 00				
34	15 50	17 60	19 70	21 75	23 85	26 10	28 30	30 50	35 60	40 70	45 90	51 65	56 20				
36	16 95	19 20	21 45	23 70	26 00	28 30	30 70	33 10	38 55	44 00	49 50	55 90	60 40	65 80			
38	17 15	21 05	23 45	25 90	28 35	30 80	33 35	35 95	41 65	49 15	53 50	59 80	65 05	70 85			
40	19 60	22 90	25 45	28 10	30 70	33 30	36 05	38 75	44 80	52 65	57 50	63 70	69 70	75 90			
42	22 05	24 80	27 55	30 30	33 05	35 85	38 75	41 60	47 95	54 40	61 00	67 60	74 30	81 00			
44	23 90	26 85	29 75	32 70	35 65	38 65	41 80	44 90	51 60	58 50	65 50	72 50	79 50	86 65			
46	25 80	28 90	32 00	35 15	38 35	41 55	44 90	48 20	55 30	62 60	70 00	77 40	84 80	92 30			
48	27 70	31 00	34 30	37 65	41 05	44 45	48 00	51 50	59 00	66 70	74 50	82 30	90 10	98 00			
50	29 75	33 30	36 80	40 30	43 85	47 45	51 15	54 80	62 70	70 85	79 15	87 40	95 70	104 10	112 60	121 25	129 90
52	31 85	35 65	39 30	43 60	46 75	50 50	54 35	58 15	66 45	75 05	83 80	92 50	101 30	110 30	119 30	128 40	137 65
54	33 95	37 90	41 80	45 70	49 65	53 60	57 55	61 50	70 25	79 25	88 50	97 70	107 00	116 50	126 00	135 60	145 30
56		40 65	44 50	48 50	52 55	56 60	60 75	65 00	74 35	83 55	93 50	103 25	113 10	123 15	133 20	143 20	153 50
58		43 25	47 20	51 30	55 45	59 65	64 00	68 50	78 45	87 85	98 50	108 85	119 25	129 80	140 40	150 90	161 70
60		46 00	50 00	54 10	58 35	62 75	67 30	72 00	82 55	92 15	103 50	114 45	125 45	136 50	147 65	158 80	169 90
62		48 30	52 65	57 10	61 65	66 30	71 10	76 00	86 95	97 25	108 70	120 35	131 85	143 20	155 15	166 85	178 50
64		50 60	55 35	60 10	64 95	69 90	74 90	80 00	91 35	102 35	113 85	126 25	138 30	150 90	162 65	174 90	187 10
66		53 00	58 05	63 15	68 30	73 50	78 75	84 00	95 75	107 55	119 50	132 15	144 80	157 50	170 20	182 95	195 70
68		55 70	60 95	66 25	71 60	77 10	82 55	88 20	100 25	112 55	125 10	138 35	151 50	165 00	178 05	191 35	204 60
70		58 40	63 85	69 25	75 00	80 70	86 40	92 40	104 85	117 65	130 80	144 55	158 25	172 50	185 95	199 75	213 60
72		61 00	66 75	72 55	78 40	84 30	90 30	96 50	109 45	122 75	136 50	150 60	165 00	179 50	193 85	208 20	222 60
74				75 75	81 90	88 50	94 80	101 00	114 45	128 25	142 50	157 10	172 00	187 00	201 85	216 75	231 70
76				79 05	85 50	92 70	99 30	105 50	119 45	133 75	148 45	163 70	179 00	194 50	209 85	225 35	240 80
78				82 35	89 10	95 90	102 85	110 00	124 50	139 25	154 50	170 30	186 10	202 00	217 95	233 95	249 95
80				85 95	92 90	99 85	106 95	114 30	129 50	144 95	160 80	177 10	193 40	210 00	226 25	242 85	259 35
82				89 55	96 70	103 85	111 15	118 65	134 50	150 65	167 10	183 90	200 70	218 00	234 65	251 75	268 80
84				93 25	100 50	107 85	115 35	123 00	139 60	156 40	173 50	190 75	208 10	225 50	243 05	260 65	278 30
90						121 00	129 40	138 00	155 60	173 40	191 50	210 70	230 05	249 50	268 95	288 45	307 95
96						134 75	143 85	153 00	172 10	191 75	212 50	233 00	254 50	276 00	297 00	318 00	339 50
102						150 75	160 85	171 00	192 00	213 40	233 50	256 25	279 05	302 00	324 95	347 95	370 95
108						165 35	176 10	187 00	209 50	232 50	256 00	280 20	304 55	329 00	353 35	377 80	402 35
114						182 10	193 50	205 00	228 40	252 45	277 00	303 00	329 50	356 00	382 30	408 70	435 30
120						196 55	208 65	221 00	246 10	271 75	298 00	325 90	353 80	382 50	410 80	439 20	467 60
	5	6	7	8	9	10	11	12	14	16	18	20	22	24	26	28	30

Intermediate widths of Face at next higher price.

Intermediate Diameters at extra prices.

Prices on Double Arm and Extra Heavy Pulleys quoted on application

For Split, Tight and Loose, and Flanged Pulleys, see additional prices on page 250.

Additional Pulley Price List.

To be added to Price Lists of Plain Pulleys given on previous pages.

For FINISHED SPLIT PULLEYS add the following prices to List Prices of Plain Pulleys.

Diam. in Inches.	Face in Inches.	Price.	Diam. in Inches.	Face in Inches.	Price.
8 to 10	3 to 6	$ 1 75	38 to 46	4 to 6	$ 7 50
	7 to 10	2 15		7 to 10	9 90
	11 to 12	3 10		11 to 14	13 50
11 to 18	3 to 6	2 20		15 to 20	18 00
	7 to 10	2 85		21 to 24	24 00
	11 to 16	4 00	48 to 60	4 to 6	10 00
19 to 23	3 to 4	2 65		7 to 10	13 00
	5 to 6	3 40		11 to 14	18 00
	7 to 10	4 05		15 to 20	25 00
	11 to 14	5 60		21 to 30	34 50
	15 to 18	7 30	62 to 84	6 to 10	20 00
24 to 30	3 to 4	3 60		11 to 14	26 00
	5 to 6	4 40		15 to 20	35 00
	7 to 10	5 40		21 to 30	48 00
	11 to 14	7 25	90 to 120	10 to 14	38 00
	15 to 22	10 00		15 to 20	53 50
31 to 36	3 to 4	4 50		21 to 30	70 00
	5 to 6	5 60			
	7 to 10	6 75			
	11 to 14	9 80			
	15 to 20	13 00			
	21 to 24	16 00			

For TIGHT and LOOSE PULLEYS per pair, or for FLANGED PULLEYS each, add the following prices to List Prices of Plain Pulleys.

Diam. in Inches.	Additional Price for 1 pair Tight & Loose Pulleys.	Additional Price for 1 Pulley with 2 Flanges.
6 to 8	$ 1 60	$ 4 65
9 to 10	1 95	5 20
11 to 12	2 30	5 75
13 to 14	2 65	6 30
15 to 16	3 00	7 15
17 to 18	3 30	8 00
19 to 20	3 70	8 80
21 to 22	4 05	9 90
23 to 24	4 40	11 00
25 to 26	4 75	12 10
27 to 28	5 10	13 75
29 to 30	5 45	15 40
31 to 32	5 80	17 05
33 to 34	6 15	18 70
35 to 36	6 50	20 35
38 to 40	7 20	23 10
42 to 44	7 90	26 40
46 to 48	8 60	29 70
50 to 52	9 30	33 00
54 to 56	10 00	36 30
58 to 60	10 70	40 70
62 to 66	11 70	46 20
68 to 72	12 70	51 70
74 to 78	13 70	57 20
80 to 84	14 70	62 70

Pulleys with one flange only, one-half that given above.
Pulleys with three flanges, one-half more than given above.

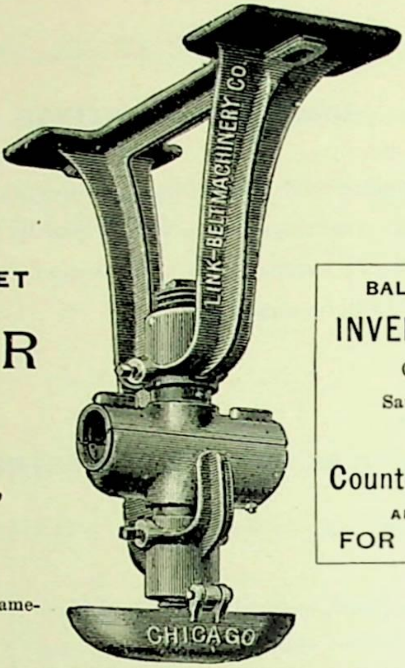
GRAY IRON CASTINGS.

Having ample capacity and unexcelled facilities, we are prepared to execute orders for light or heavy castings of excellent quality. Our modern Pulley and Sheave Molding Machines insure correct proportion and design, and the quality of iron used is all that could be desired.

PRICES ON PULLEY CASTINGS.

Unless otherwise specified, orders will be filled from our standard schedule for Arms and Hubs.	Plain Pulley.	Add for Split.	Add for Single Flange.	Add for Double Flange.
From 6 in. to 9 in. diam., inclusive, less than 4 in. face,	3½c.	1c.	1c.	2c.
From 10 in. to 48 in. diam., inclusive, less than 4 in. face,	3c.	½c.	¼c.	½c.
From 50 in. to 60 in. diam., inclusive, less than 4 in. face,	3c.	½c.	⅛c.	¼c.
Above 60 in. diam., and less than 4 in. face,	3c.	½c.	......	......
From 6 in. to 9 in. diam., inclusive, 4 in. face and over,	3c.	½c.	½c.	1c.
From 10 in. to 48 in. diam., inclusive, 4 in. face and over,	2½c.	¼c.	¼c.	½c.
From 50 in. to 60 in. diam., inclusive, 4 in. face and over,	2½c.	⅛c.	⅛c.	¼c.
Above 60 in. diam. 4 in. face and over,	2½c.	......	......	......

Prices subject to change without notice.



BALL AND SOCKET

HANGER

WITH

SELF-OILING BOXES,

BABBITTED.

Length of Box equals four diameters of shaft.

BALL AND SOCKET

INVERTED HANGER

Or Floor Stand,

Same price as Drop Hanger.

Counter-Shaft Hanger,

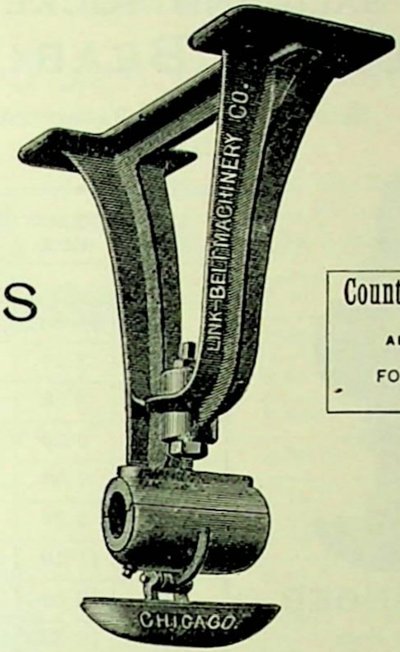
ADD 50 CTS. NET

FOR SHIPPER ARM.

Size of Box.	Drop in Inches.						
	10	12	15	18	21	24	30
$1\frac{3}{16}$	$ 4 40	$ 4 60					
$1\frac{7}{16}$	4 60	4 90	$ 5 30				
$1\frac{11}{16}$	5 10	5 50	6 00	$ 6 50	$ 7 00		
$1\frac{15}{16}$	6 00	6 50	7 10	7 70	8 30	$ 9 50	
$2\frac{3}{16}$	7 30	7 90	8 60	9 30	10 00	11 40	$12 80
$2\frac{7}{16}$	9 00	9 70	10 50	11 30	12 10	13 70	15 30
$2\frac{11}{16}$	11 10	11 90	12 80	13 70	14 60	16 40	18 20
$2\frac{15}{16}$	13 60	14 50	15 50	16 50	17 50	19 50	21 50
$3\frac{3}{16}$		17 50	18 60	19 70	20 80	23 00	25 20
$3\frac{7}{16}$		20 90	22 10	23 30	24 50	26 90	29 30
$3\frac{11}{16}$		24 70	26 00	27 30	28 60	31 20	33 80
$3\frac{15}{16}$			30 30	31 70	33 10	35 90	38 70
$4\frac{7}{16}$			40 10	41 70	43 30	46 50	49 70
$4\frac{15}{16}$				53 30	55 10	58 70	62 30

The Drop of a Hanger is the vertical distance from the foot to the centre of Box.

RIGID
HANGERS
WITH
SELF-OILING BOXES,
BABBITTED.



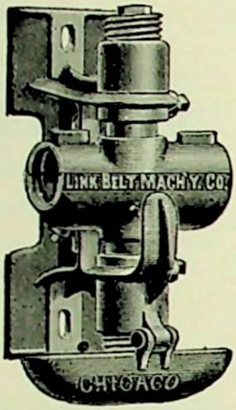
Counter-Shaft Hanger,
ADD 50 CTS. NET
FOR SHIPPER ARM.

Size.	Drop in Inches.						
	8	10	12	15	18	21	24
$\frac{15}{16}$	$3 10	$3 20	$3 30				
$1\frac{3}{16}$	3 30	3 40	3 50				
$1\frac{7}{16}$	3 50	3 70	3 90	$4 30	$4 70		
$1\frac{11}{16}$	4 00	4 30	4 60	5 10	5 60	$6 10	
$1\frac{15}{16}$	4 80	5 20	5 60	6 20	6 80	7 40	
$2\frac{3}{16}$	5 90	6 40	6 90	7 60	8 30	9 00	$9 70
$2\frac{7}{16}$	7 30	7 90	8 50	9 30	10 10	10 90	11 70
$2\frac{11}{16}$	9 00	9 70	10 40	11 30	12 20	13 10	14 00
$2\frac{15}{16}$		11 80	12 60	13 60	14 60	15 60	16 60
$3\frac{3}{16}$		14 20	15 10	16 20	17 30	18 40	19 50
$3\frac{7}{16}$			17 90	19 10	20 30	21 50	22 70
$3\frac{11}{16}$			21 00	22 30	23 60	24 90	26 20
$3\frac{15}{16}$				25 80	27 20	28 60	30 00

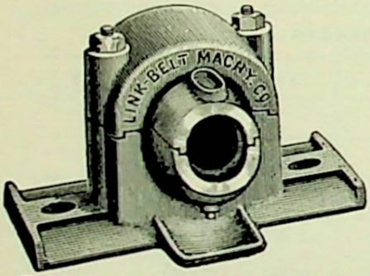
The drop of a Hanger is the vertical distance from the foot to the center of Box.

BALL AND SOCKET
JOURNAL BEARINGS.

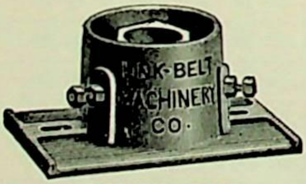
SELF-OILING BOXES, BABBITTED.



POST HANGER.
Self Oiling Box.


LINK-BELT MACHY. CO.

PILLOW BLOCK.
Self-Oiling Box.


LINK-BELT MACHINERY CO.

ADJUSTABLE STEP BOX.
With Oil Pot.

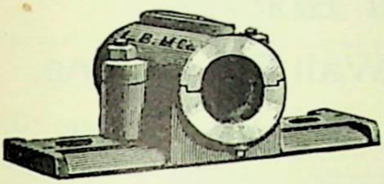
Size. Inches.	PILLOW BLOCK.	Length of Box. Inches.	POST HANGER.	Extension to Center.
$\frac{15}{16}$				6 in.
$1\frac{3}{16}$	$4 80	5	$4 50	
$1\frac{7}{16}$	5 10	6	4 80	
$1\frac{11}{16}$	5 50	7	5 20	
$1\frac{15}{16}$	6 30	8	6 00	
$2\frac{3}{16}$	7 50	9	7 30	
$2\frac{7}{16}$	9 10	10	8 90	
$2\frac{11}{16}$	11 10	11	10 90	
$2\frac{15}{16}$	13 50	12	13 30	
$3\frac{3}{16}$	16 30	13	16 20	8 in.
$3\frac{7}{16}$	19 50	14	19 40	
$3\frac{11}{16}$	23 10	15	23 00	
$3\frac{15}{16}$	27 10	16	27 00	
$4\frac{7}{16}$	36 30	18	36 30	
$4\frac{15}{16}$	47 10	20	47 10	
$5\frac{7}{16}$	59 50	22		
$5\frac{15}{16}$	73 50	24		

Adjustable Step Boxes.

Diam. Shaft	Price.
$\frac{15}{16}$	$ 5 50
$1\frac{3}{16}$	6 00
$1\frac{7}{16}$	6 75
$1\frac{11}{16}$	7 80
$1\frac{15}{16}$	9 20
$2\frac{3}{16}$	11 00
$2\frac{7}{16}$	13 00
$2\frac{11}{16}$	16 00
$2\frac{15}{16}$	20 00

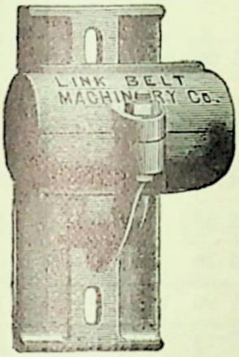
PRICES OF

RIGID JOURNAL BEARINGS.



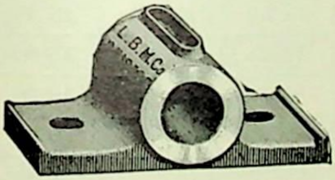
PILLOW BLOCK.

Self-Oiling, Babbitted



POST BOX.

Self-Oiling, Babbitted.



SOLID JOURNAL BOX.

Babbitted or Bored.

Size.	Pillow Blocks.	Post Boxes.	Solid Journal Boxes, Bored.	Solid Journal Boxes, Babbitted
15/16	$ 2 00	$ 2 25	$ 75	$ 85
1 3/16	2 50	2 75	90	1 00
1 7/16	3 00	3 25	1 25	1 35
1 11/16	3 50	3 75	1 60	1 75
1 15/16	4 00	4 50	2 00	2 20
2 3/16	4 75	5 25	2 60	2 90
2 7/16	6 00	6 75	3 25	3 60
2 11/16	7 00	7 75	4 00	4 40
2 15/16	8 50	9 25	5 00	5 50
3 3/16	10 00	11 00	6 00	6 60
3 7/16	12 00	13 25	7 25	8 00
3 11/16	14 00	15 50	8 50	9 50
3 15/16	16 50	18 00	10 00	11 00
4 3/16	19 50	21 00		
4 7/16	22 00	24 25		
4 11/16	26 00	28 50		
4 15/16	30 00	33 00		
5 3/16	34 50	37 50		
5 7/16	38 50	42 25		
5 11/16	42 50	46 50		
5 15/16	48 00	52 50		

In addition to the above we have a large assortment of

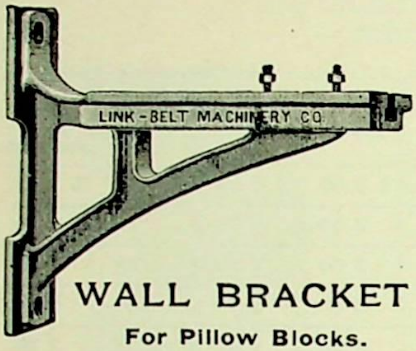
Special Journal Bearings,

Designed for

VERTICAL AND HORIZONTAL SHAFTS.

Prices of Pillow Blocks without self-oiling feature upon application.

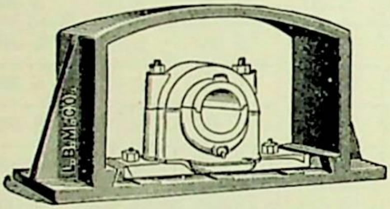
PILLOW BLOCK SUNDRIES.


LINK-BELT MACHINERY CO.

WALL BRACKET

For Pillow Blocks.

Including Bolts, as shown. 15 inches extension to center of box.



WALL BOX FRAME

For Pillow Blocks,

Including Bolts for securing Pillow Block.

LINK-BELT MACHINERY CO.

BASE PLATE,

Or Shoe for Pillow Blocks,

Including Bolts as shown.

Wall Bracket, Wall Box Frame, Base Plate.

Size.	PRICE.		
	Wall Bracket.	Wall Box Frame without Box.	Base Plate.
$\frac{15}{16}$			
$1\frac{3}{16}$			
$1\frac{7}{16}$	$ 4 00	$ 6 60	
$1\frac{11}{16}$	4 10	6 60	$ 4 20
$1\frac{15}{16}$	4 40	6 60	4 40
$2\frac{3}{16}$	4 75	8 00	4 70
$2\frac{7}{16}$	5 40	8 00	5 25
$2\frac{11}{16}$	6 10	12 00	6 00
$2\frac{15}{16}$	7 00	12 00	7 00
$3\frac{3}{16}$	7 75	16 00	8 10
$3\frac{7}{16}$	8 60	16 00	9 20
$3\frac{11}{16}$	9 50	20 00	10 30
$3\frac{15}{16}$	10 50	20 00	11 40
$4\frac{7}{16}$	12 50	34 00	13 60
$4\frac{15}{16}$	14 25	34 00	15 80
$5\frac{7}{16}$	16 25	50 00	18 00
$5\frac{15}{16}$		50 00	20 20
$6\frac{7}{16}$			22 40
$6\frac{15}{16}$			24 50

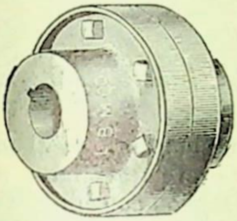
A Base Plate provides a larger footing surface for a Pillow Block, and will admit of its being adjusted if desired.

TURNED SHAFTING.

FLANGED FACE COUPLINGS,

SAFETY COLLARS.

All shafting made straight, true and turned exactly to gauge. All shafts above $4\frac{7}{16}$ are of hammered iron.

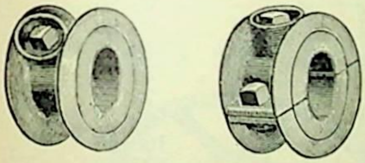


FLANGED

FACE COUPLINGS

WITH TURNED BOLTS,

Holes drilled by templets, therefore interchangeable.



PATENT

SAFETY COLLAR.

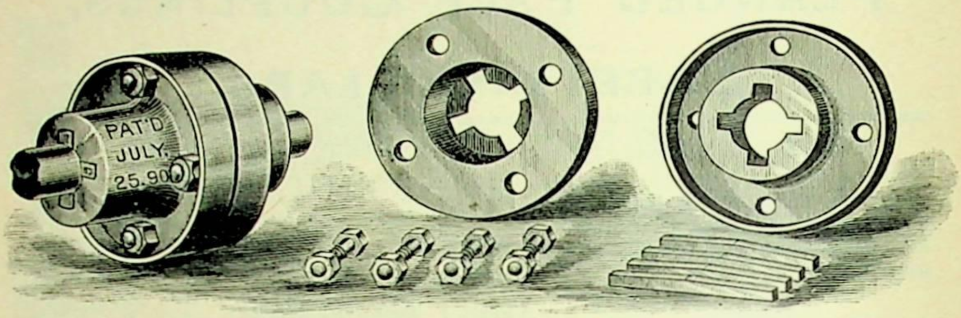
WITH SET SCREWS.

Made Plain or Split

FINISHED SHAFTING.			FLANGED FACE COUPLINGS.	IRON SET COLLARS.
Diam. of Shaft.	Price per Foot.	Keyseats per foot, other than for Couplings furnished	Price per Pair.	Price each.
$\frac{15}{16}$	$0 70	$0 30	$7 50	$0 70
$1\frac{3}{16}$	75	35	7 75	80
$1\frac{7}{16}$	80	40	8 00	1 00
$1\frac{11}{16}$	87	45	8 50	1 20
$1\frac{15}{16}$	1 05	50	9 00	1 40
$2\frac{3}{16}$	1 25	55	10 50	1 60
$2\frac{7}{16}$	1 50	60	12 50	1 80
$2\frac{11}{16}$	1 80	65	15 25	2 10
$2\frac{15}{16}$	2 15	70	18 25	2 40
$3\frac{3}{16}$	2 60	80	21 75	2 70
$3\frac{7}{16}$	2 95	90	25 25	3 00
$3\frac{11}{16}$	3 45	1 00	29 25	3 30
$3\frac{15}{16}$	4 00	1 20	33 25	3 60
$4\frac{7}{16}$	5 30	1 45	43 25	4 70
$4\frac{15}{16}$	6 90	1 75	54 75	5 90
$5\frac{7}{16}$	8 75	2 10	67 00	7 20
$5\frac{15}{16}$	10 85	2 50	81 00	8 60
$6\frac{7}{16}$	13 20	3 00	95 50	10 10
$6\frac{15}{16}$	15 90	3 50	110 00	11 70

Add 50 cents to the list for SPLIT COLLARS up to $2\frac{7}{16}$ in. Add 25 per cent. for all sizes above $2\frac{7}{16}$ in.

THE F. F. COMPRESSION COUPLING.



(Patented.)

Saves cost of key-seating shafts, fitting keys, and refacing couplings after being keyed on shafts. Holds the shafts in accurate alignment with each other. Has a powerful grip equally exerted upon the shafts from four sides.

Is easily and quickly attached to or detached from shafting. Will adjust to a somewhat larger or smaller than standard size shaft. Severe tests have proven it thoroughly reliable. Has double the grip of other compression couplings and IS THE MOST PERFECT FITTING COUPLING MADE.

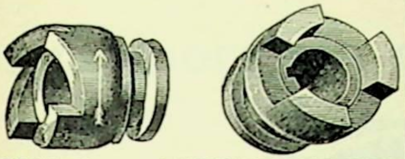
We guarantee it to hold under the heaviest strains when attached to shafting according to directions, which we send with every coupling ordered. Send for special circular.

Diam. of Shaft.	Price per pair.	Diam. of Shaft.	Price per pair.
$\frac{15}{16}$	$ 7 50	$3\frac{7}{16}$	$ 25 25
$1\frac{3}{16}$	7 75	$3\frac{11}{16}$	29 25
$1\frac{7}{16}$	8 00	$3\frac{15}{16}$	33 25
$1\frac{11}{16}$	8 50	$4\frac{7}{16}$	43 25
$1\frac{15}{16}$	9 00	$4\frac{15}{16}$	54 75
$2\frac{3}{16}$	10 50	$5\frac{7}{16}$	75 00
$2\frac{7}{16}$	12 50	$5\frac{15}{16}$	92 00
$2\frac{11}{16}$	15 25	$6\frac{7}{16}$	108 00
$2\frac{15}{16}$	18 25	$6\frac{15}{16}$	125 00
$3\frac{3}{16}$	21 75		

Add 20 per cent. to above list for Reduction Couplings.

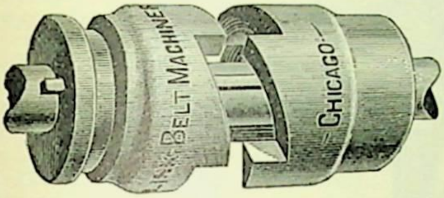
Over 3,000 of these Couplings sold in three years.

JAW CLUTCHES.

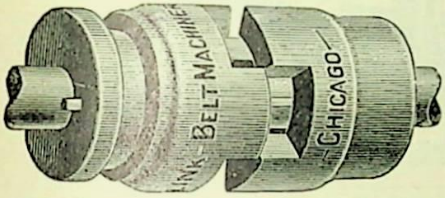


SPIRAL and SQUARE TOOTH CLUTCHES.

Spiral Clutches made right and left-hand. A right-hand Clutch drives when turning to the right as you face the smooth end.



Spiral Clutch Coupling.



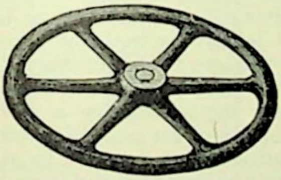
Square Clutch Coupling

PRICES OF SPIRAL AND SQUARE JAW CLUTCHES AND CLUTCH COUPLINGS.

No.	Size.	Clutch Price.	Clutch Coupling.	Remarks.
3	$\frac{15}{16}$	$2 25	$4 30	
3½	$1\frac{3}{16}$	2 85	5 50	
4	$1\frac{7}{16}$	3 50	6 80	
4½	$1\frac{11}{16}$	4 20	8 10	
5	$1\frac{15}{16}$	4 95	9 60	
5½	$2\frac{3}{16}$	5 75	11 10	
6	$2\frac{7}{16}$	6 60	12 80	
6½	$2\frac{11}{16}$	7 50	14 50	
7	$2\frac{15}{16}$	8 45	16 30	
7½	$3\frac{3}{16}$	9 45	18 20	
8	$3\frac{7}{16}$	10 50	20 20	
8½	$3\frac{11}{16}$	11 60	22 30	
9	$3\frac{15}{16}$	12 75	24 50	
10	$4\frac{7}{16}$	15 20	29 30	
11	$4\frac{15}{16}$	17 85	34 50	
12	$5\frac{7}{16}$	20 70	40 00	
13	$5\frac{15}{16}$	23 75	46 00	

When ordering Clutches to be used with Sprocket Wheels, Pulleys or Gears, be careful to state whether the clutch connects with right or left hand side of wheel when top of same is turning from you; also, whether wheel or clutch is to drive.

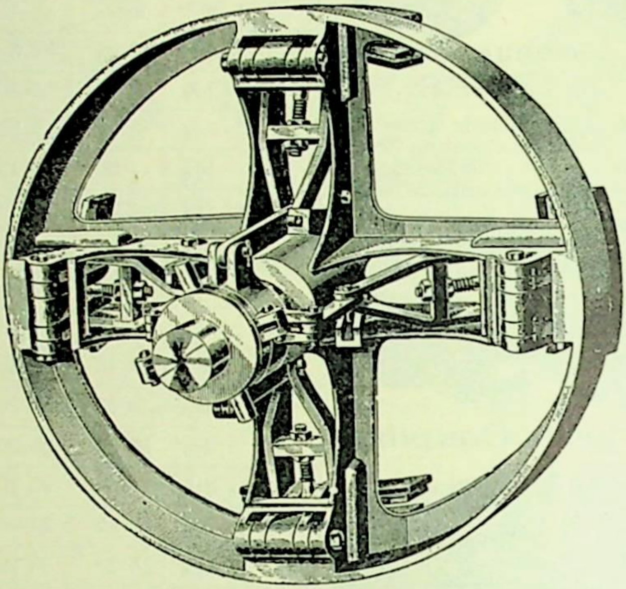
HAND WHEELS.



HAND WHEELS, BORED AND SET SCREWED OR KEY SEATED.

Extreme Diameter.	Diameter of Rim.	Price.
5¼ in.	⅞ in.	$1.00
6 "	"	1.20
7 "	"	1.40
8 "	"	1.60
9 "	"	1.80
10 "	1 in.	2.10
12 "	1⅛ "	2.40
16 "	$1\frac{1}{16}$ "	2.80
18 "	1 "	3.00
20 "	1¼ "	3.20
24 "	$1\frac{5}{16}$ "	3.80

EWART GUARANTEED FRICTION CLUTCH.



(Patented.)

The general type of the Ewart Clutch—wood filled shoes gripping a pulley rim—has been long and favorably known. The gripping mechanism, general construction of clutch frame, and other features of the Ewart Clutch are entirely new and overcome difficulties familiar to users of clutches, and which we have observed ourselves in the experience of an extensive machinery business during the past fourteen years. While the Ewart Clutch is comparatively new to the public, we particularly call attention to the fact that we have had them subject to the test of continuous running on jackshafts and main line shafts in our own factory for upward of two years, watching carefully their performance with a view to discovering any hidden defects; and have also made frequent specific and most severe tests on electric work at *high speed.* We now feel that we have had ample experience to justify us in *fully guaranteeing* their performance, and in boldly asserting that they possess the following advantages, most of which are entirely distinctive, and which are combined in no other clutch.

FIRST.—The gripping arms are connected and supported by a *flanged rim*, which equalizes the starting strains, thus insuring the greatest possible strength and stiffness. This rim completely shields the levers and working parts. In other forms of clutches of this general type, breakages of the unconnected and independent arms, when starting up, are frequent, occasioned by an unequal adjustment of the gripping shoes, one pair of jaws taking hold a moment in advance of the others, thus throwing the entire strain suddenly upon one arm of the clutch; furthermore, great resistance to the air is offered at high speeds, and the exposed levers are most dangerous.

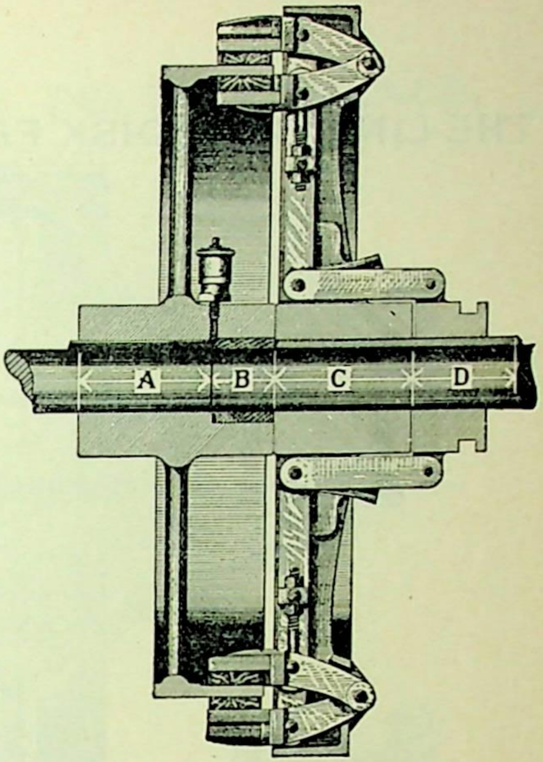
SECOND—The powerful mechanical device—*the toggle*—is used to actuate the gripping shoes, and all the levers and links are made of wrought iron of simplest form.

THIRD—*No Springs* are employed. The clutch is thrown into and out of engagement positively, and absolutely locked in either position. It is impossible for it to engage itself even partially by centrifugal force, as is the tendency with many clutches.

FOURTH—It can be split as readily as an ordinary pulley and in a similar manner.

FIFTH—The *adjustment* is most simple. The only parts ever needing renewal are the wooden shoes, and the jaws grip with uniform pressure.

SIXTH—It occupies *minimum space* on shaft. The construction is such that when desired, the clutch mechanism may be cast as a part of pulley or sheave, and the clutch rim used as a driver.



CROSS SECTION.

Prices of Ewart Guaranteed Friction Clutch Couplings.

No. of Clutch.	Arms.	H. P. at 100 Rev.	Max. Bore.	Price.	Space on Shaft.			
					A	B	C	D
18 in.	2	9	2$\frac{15}{16}$	$ 75 00	4 in.	2¼ in.	5 in.	6 in.
20 in.	2	10	3$\frac{15}{16}$	75 00	4 in.	2¼ in.	5 in.	6 in.
24 in.	2	15	4$\frac{15}{16}$	90 00	4½ in.	2½ in.	6 in.	6½ in.
20 in.	4	20	3$\frac{15}{16}$	100 00	4 in.	2¼ in.	5 in.	6 in.
24 in.	4	30	4$\frac{15}{16}$	125 00	4½ in.	2½ in.	6 in.	6½ in
30 in.	4	50	4$\frac{15}{16}$	160 00	6 in.	3 in.	6½ in.	7¼ in.
36 in.	4	70	5$\frac{15}{16}$	200 00	6½ in.	3½ in.	8 in.	8 in.
42 in.	4	115	6$\frac{15}{16}$	285 00	7 in.	4 in.	9 in.	9 in.
48 in.	4	140	7$\frac{15}{16}$	350 00	8 in.	4½ in.	9½ in.	10¾ in.
42 in.	6	170	6$\frac{15}{16}$	400 00	7 in.	4 in.	9 in.	9 in.
48 in.	6	205	7$\frac{15}{16}$	475 00	8 in.	4½ in.	9½ in.	10¾ in.

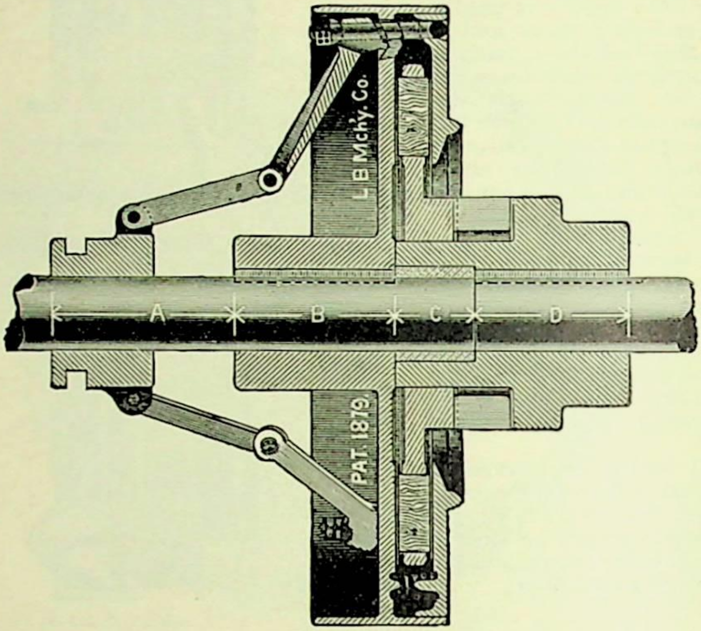
On Clutches from 54 in. to 96 in., specifications and prices will be made on application.

All Clutch Couplings and Clutch Pulleys are provided with Anti-Friction Bushings.

We furnish Shipper Yoke arranged to receive wood or iron lever. In ordering, state whether fulcrum is on opposite or same side of shaft as lever. Former style sent unless otherwise ordered.

Prices on Clutch Pulleys quoted on receipt of the following particulars: Diameter and face of pulley; diameter and speed of shafting; kind, width and thickness of belt; and approximate estimate of horse-power you wish to transmit; does clutch drive pulley, or pulley drive clutch?

THE LINK-BELT DISK FRICTION CLUTCH



(Patented.)

Has the friction blocks of wood fastened in a disk, and so arranged that both ends of the grain are utilized. It is admirably adapted for use where diameters are small and work is comparatively light, being frequently employed with sprocket wheels, gears, etc. Many hundreds of these clutches are in daily service, giving the best of satisfaction.

PRICE LIST OF CLUTCH COUPLINGS.

The number of the Clutch indicates the outside diameter of the rim.

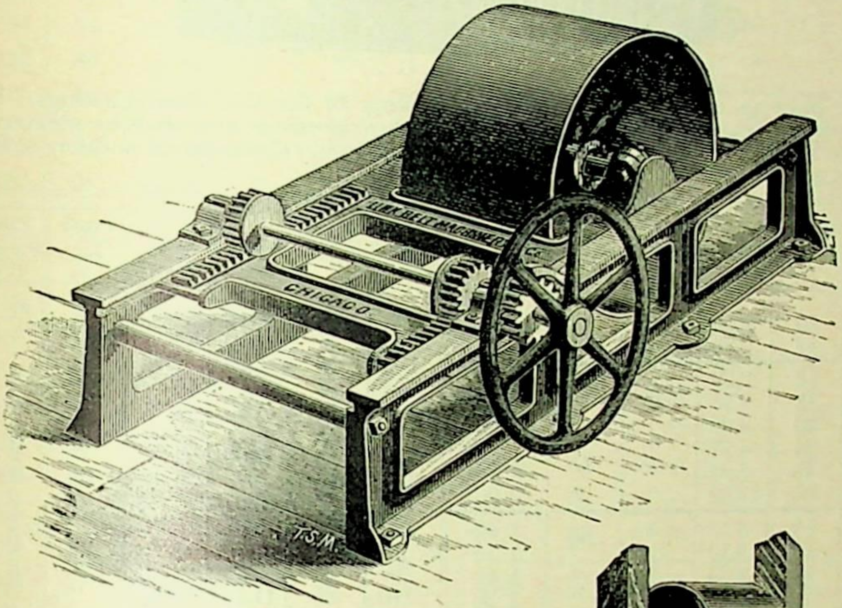
All Clutch Couplings and Clutch Pulleys are provided with Anti-Friction Bushings.

No. of Clutch.	Price Including Lever.	H.P. at 100Rev.	Maximum Bore.	Space on Shaft.		
				A	B	D
10	$45 00	3	$1\frac{15}{16}$	3¾	3	3¼
12	55 00	5	$2\frac{7}{16}$	4¼	3½	3¼
14	60 00	7	$2\frac{15}{16}$	4¾	3¾	3¾
16	75 00	10	$3\frac{7}{16}$	5½	4	4¼
18	90 00	17	$3\frac{15}{16}$	6¼	4½	4¼

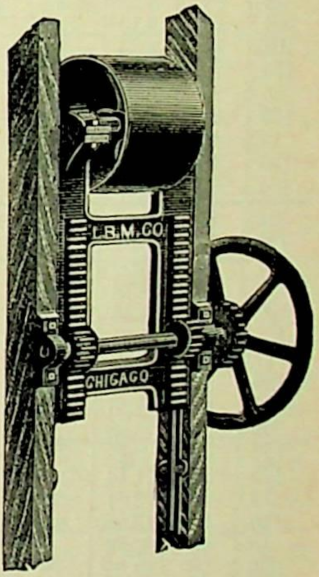
Dimension "C" is governed by the diameter of shaft, as given below:

3 in. for shafts up to $1\frac{7}{16}$
4 in. " " $1\frac{11}{16}$ to $2\frac{7}{16}$
5 in. " " $2\frac{11}{16}$ to $4\frac{15}{16}$

IRON FRAME BELT TIGHTENER, COMPLETE.


LINK BELT MACHINERY CO.
CHICAGO
T.S.M.

These Belt Tighteners are substantial, well finished, and have accurately balanced straight-faced pulleys. We carry a stock of these Tighteners, enabling us to fill orders promptly.

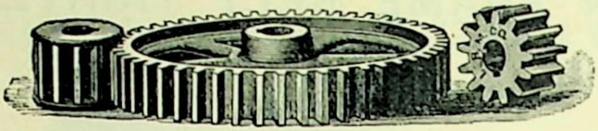


BELT TIGHTENER FOR WOODEN FRAMES.

Price List

No.	Length of Adjustment.	Size of Pulley, Diameter Face.	Diam. of Shaft.	Price, with Iron Side Frames.	Price, without Iron Frame.
00	1½ ft.	12 × 9	1 11/16	$37.50	$30.00
0	1⅔ "	18 × 12	1 11/16	50.00	40.00
1	2 "	24 × 14	1 15/16	70.00	56.00
2	3½ "	28 × 20	2 7/16	100.00	82.00
3	4 "	30 × 26	2 11/16	160.00	120.00
4	5 "	42 × 38	2 15/16	300.00	250.00

SPUR GEARING.



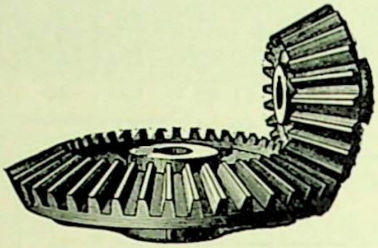
We have an enviable reputation as makers of Smooth Gear Castings. We are constantly making new patterns of standard proportions, and shall be pleased to figure on anything required. The following prices cover Gears bored and key-seated or set-screwed:

No. of Pattern	No. of Teeth.	Diam.	Face.	Pitch In.	Price Finis'd.
139	16	2.55	1¼	½	$1 65
161	18	2.86	1¼		1 70
135	12	2.39	1½	⅝	1 70
153	15	2.98	"		1 75
141	20	3.98	"	"	1 90
198	24	4.77	"	"	1 95
111	45	8.95	"	"	2 50
219	65	12.93	"	"	3 00
18	13	3.10	3	¾	1 90
209	13	3.10	1¾		1 75
108	14	3.34	"	"	1 80
154	24	5.73	"	"	2 20
155	25	5.97	"	"	2 30
152	39	9.31	"	"	2 85
19	40	9.55	2½	"	3 10
156	46	10.98	1¾	"	3 00
134	60	14.33	"	"	3 50
224	11	3.06	2¼	⅞	1 85
123	13	3.62	"		1 90
157	14	3.90	2	"	1 95
143	15	4.18	2½	"	2 10
192	16	4.46	2¼	"	2 15
145	18	5.01	"	"	2 25
11	20	5.57	"	"	2 35
125	22	6.13	"	"	2 55
181	30	8.36	"	"	2 85
196	31	8.63	"	"	2 95
197	33	9.19	"	"	3 05
124	40	11.14	"	"	3 20
12	46	12.81	2	"	3 40
146	50	13.93	2¼	"	3 80
13	75	20.89	"	"	5 50
220	78	21.72	"	"	6 00
158	94	26.18	2	"	7 40
190	102	28.41	2¼	"	7 70
132	114	31.75	"	"	9 60
206	10.	3.18	3½	1	$1 90
226	11	3.50	2½	"	1 90
109	12	3.82	2½	"	1 90
144	13	4.14	"	"	2 00
151	14	4.46	"	"	2 10
16	15	4.77	"	"	2 20
129	16	5.09	"	"	2 30
107	18	5.73	"	"	2 40
119	20	6.37	"	"	2 80
140	21	6.68	"	"	2 90
14	25	7.96	"	"	2 90
207	30	9.55	3	"	3 25
110	36	11.46	2½	"	3 30
137	37	11.78	"	"	3 40
15	50	15.92	"	"	4 20
120	63	20.05	"	"	5 70
159	72	22.92	"	"	6 60
17	75	23.87	"	"	6 70
147	88	28.01	"	"	8 20
148	100	31.83	"	"	9 90
127	14	5.01	3	1⅛	2 50
214	29	10.38	"	"	4 10
225	12	4.77	2	1¼	2 10
122	12	4.77	3¼	"	2 30
160	13	5.17	"	"	2 45
142	14	5.57	"	"	2 60
113	15	5.97	"	"	2 75
136	16	6.37	"	"	3 00
204	17	6.76	"	"	3 20
106	20	7.96	"	"	3 40
10	21	8.35	"	"	3 60
118	30	11.94	"	"	4 20
121	40	15.95	"	"	5 50

SPUR GEARING. (Continued.)

No. of Pattern	No. of Teeth.	Diam.	Face.	Pitch, Inches.	Price Finis'd.
105	60	23.87	3¼	1¼	$ 7 75
194	75	29.84	"	"	9 50
112	80	31.83	"	"	11 40
133	90	35.81	"	"	12 00
202	14	6.13	3½	1⅜	3 20
203	98	42.90	"	"	19 90
162	10	4.77	4	1½	2 35
163	12	5.73	"	"	2 75
126	13	6.21	5	"	3 70
138	14	6.68	4	"	3 40
101	15	7.16	"	"	3 55
117	16	7.64	"	"	3 75
102	18	8.59	4½	"	4 40
164	20	9.55	4	"	4 60
165	24	11.46	"	"	4 80
216	26	12.44	"	"	5 40
166	29	13.85	"	"	6 00
104	36	17.19	"	"	6 75
167	45	21.49	"	"	8 40
116	46	21.96	"	"	8 50
103	50	23.87	"	"	9 20
215	53	25.30	"	"	9 65
217	56	26.74	"	"	10 10
130	60	28.65	"	"	10 75
131	72	34.38	"	"	13 50
128	83	39.63	"	"	17 50
210	96	45.88	"	"	24 50
199	111	53.00	"	"	30 25
168	12	6.68	5	1¾	3 75
169	13	7.24	"	"	3 90
149	14	7.80	"	"	4 20
170	15	8.36	"	"	4 50
171	16	8.91	"	"	4 70
172	18	10.03	"	"	4 80
173	24	13.37	5	1¾	$ 5 75
174	36	20.05	"	"	9 50
205	40	22.28	"	"	11 00
175	52	28.97	"	"	14 00
150	86	47.91	"	"	30 25
176	12	7.64	6	2	4 55
177	13	8.28	"	"	4 65
115	14	8.91	"	"	6 50
185	16	10.19	"	"	6 50
187	19	12.10	"	"	7 30
178	24	15.28	"	"	9 25
191	30	19.10	"	"	12 00
188	35	22.28	"	"	14 00
179	48	30.56	"	"	20 00
186	59	37.56	"	"	28 00
195	64	40.74	"	"	32 00
114	69	43.93	"	"	36 50
189	75	47.75	"	"	38 50
227	12	8.60	7½	2¼	6 50
180	14	10.03	6½	"	7 40
200	16	11.46	"	"	7 90
228	36	25.78	7	"	16 00
211	50	35.81	8½	"	38 00
201	64	45.84	6½	"	37 50
222	12	9.66	7½	2½	9 60
184	30	23.87	7	"	18 00
193	30	23.87	"	"	Finger Gear. 18 00
223	42	33.45	7½	"	58 00
213	26	22.76	8	2¾	26 50
212	76	66.52	"	"	67 00
208	14	13.37	8	3	12 25
229	21	19.12	10	"	20 00
182	25	23.87	8	"	30 00
183	56	53.48	8	"	64 00
218	26	28.97	6	3½	32 60

BEVEL GEARING.



No. of Patt.	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Backing.	Proportion.	Price, Finished.
424	21	5.01	1½	¾	¾	1½ to 1	$1 90
423	13	3.10			⅜	"	1 60
422	34	8.12	2	"	⅞	1¾ to 1	2 60
421	20	4.47			½	"	1 95
42	42	10.03	2	"	1½	2 to 1	2 80
41	21	5.01			⅝	"	2 00
450	45	10.74	1¾	"	1¼	3 to 1	2 75
449	15	3.58			¼	"	1 75
444	56	13.37	2	"	2⅜	4 to 1	3 50
443	14	3.34			⅝	"	1 75
464	45	14.32	2½	1	1½	1⅕ to 1	4 00
463	38	12.10			1¼	"	3 75
468	67	21.33	"	"	1⅝	1⅓ to 1	5 90
467	50	15.92			1⅛	"	4 25
448	38	12.10	"	"	1¼	1½ to 1	3 55
447	25	7.96			¼	"	2 75
428	57	18.14	"	"	1⅝	1½ to 1	5 10
427	38	12.10			1	"	3 75
489	31	9.87	2¼	"	1	1½ to 1	3 00
490	21	6.68			¾	"	2 50
456	32	10.19	2½	"	1¾	2 to 1	3 00
455	16	5.09			⅜	"	2 15
442	48	15.28	"	"	2¼	2 to 1	4 25
441	24	7.64			⅞	"	2 75
454	60	19.10	"	"	2	2 to 1	5 10
453	30	9.55			½	"	3 00
402	55	17.51	"	"	2⅛	2¾ to 1	4 40
401	20	6.37			1	"	2 40
430	48	15 28	"	"	2½	3 to 1	4 30
429	16	5.09			⅜	"	2 10
44	75	23.87	"	"	3	4 to 1	6 40
43	19	6.05			⅞	"	2 60

BEVEL GEARING.

(CONTINUED.)

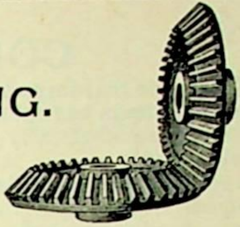
No. of Patt.	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Backing.	Proportion.	Price, Finished.
486	32	12.73	3¼	1¼	2	1⅓ to 1	$ 4 20
485	24	9.55			1⅛	"	3 15
482	26	10.35	3	"	1¾	1⅓ to 1	3 10
481	19	7.56			¾	"	2 90
472	69	27.45	3¼	"	2⅝	2 to 1	9 00
471	34	13.53			1⅛	"	4 20
436	27	10.74	3	"	1½	2 to 1	3 10
435	13	5.17			½	"	2 10
420	40	15.92	"	"	2½	2 to 1	4 60
419	20	7.96			⅞	"	3 15
46	60	23.87	"	"	2¾	2 to 1	7 00
45	31	12.33			1¾	"	4 40
48	76	30.24	3¼	"	2¾	2 to 1	11 30
47	38	15.12			1	"	4 50
418	76	30.24	"	"	3	2½ to 1	11 30
417	30	11.94			1	"	4 00
484	40	15.92	"	"	1¾	2¾ to 1	4 50
483	15	5.97			⅜	"	2 50
426	74	29.44	"	"	3	3 to 1	10 00
425	25	9 95			¾	"	3 50
434	60	23.87	3	"	2¾	4 to 1	7 10
433	15	5.97			½	"	2 50
470	76	30.24	3¼	"	3⅛	4½ to 1	10 75
469	17	6.76			⁹⁄₁₆	"	2 80
492	84	33.42	"	"	4	6 to 1	11 25
491	14	5.57			½	"	2 45
412	48	20.01	3½	1⅜	2½	1⅐ to 1	6 75
411	42	18.38			2	"	6 00
474	55	24.07	"	"	2½	1¼ to 1	8 60
473	44	19.26			1½	"	6 40
476	102	44.64	"	"		1½ to 1	21 50
475	67	29.32				"	11 25
410	109	47.71	"	"	6	6 to 1	22 00
409	18	7.88			⅜	"	3 60
466	85	37.20	"	"	4¼	7 to 1	15 10
465	12	5.25			1⅜	"	2 30

BEVEL GEARING

(CONTINUED.)

No. of Patt.	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Backing.	Proportion.	Price, Finished.
432	92	40.27	4	1⅜	4	7 to 1	$17 00
431	13	5.69			¼		2 60
440	112	49.02	"	"	1¾	8⅔ to 1	24 50
439	13	5.69			⅞		2 60
478	40	19.10	"	1½	2¼	1⅓ to 1	7 10
477	30	14.32			1⅛		5 20
414	52	24.83	"	"	2½	1⅓ to 1	9 60
413	39	18.60			1½		6 80
446	64	30.56	"	"	3	2 to 1	12 60
445	32	15.28			1¼		5 70
452	45	21.49	"	"	2¼	3 to 1	7 20
451	15	7.16			⅝		3 25
488	36	17.19	"	"	1¾	1⅝ to 1	5 90
487	22	10.50			1⅛		3 75
498	75	35.81	"	"	5	3 to 1	16 00
497	25	11.94			1		4 25
4002	63	30.08	"	"	4¼	3 to 1	13 75
4001	21	10.03			1		4 00
462	60	28.65	"	"	3½	3¾ to 1	11 00
461	16	7.64			½		3 40
480	92	43.93	"	"	6	7 to 1	24 00
479	13	6.21			¼		3 00
460	45	25.07	5	1¾	3½	2¼ to 1	10 40
459	20	11.14			1		4 80
496	39	21.72	"	"	1¾	2 to 1	7 00
495	19	10.58					4 00
458	62	34.55	"	"	3½	3.1 to 1	18 00
457	20	11.14			1		4 00
416	56	40.11	7	2¼	6½	4 to 1	25 50
415	14	10.03			¼		5 40
404	67	48.00	5	"	6 3/16	4½ to 1	26 70
403	15	10.82			1		5 10
438	42	33.42	8	2½	6½	3 to 1	23 80
437	14	11.14			1		6 25
4004	48	42.02	7½	2¾	5¾	1.8 to 1	36 70
4003	26	22.76			2½		19 80
494	48	45.84	5	3	5½	3.7 to 1	35 40
493	13	12.41			¾		6 50
406	53	59.04	9	3½	9	3⅓ to 1	76 00
405	16	17.88			3¼		24 00

MITRE GEARING.



No. of Patt.	No. of Teeth	Diam.	Face.	Pitch, In.	Backing.	Price, Finsh'd
601	18	4.30	1¾	¾	½	$1 80
603	42	10.03	"	"	1⅛	2 80
612	30	8.36	2	⅞	1½	2 80
602	19	6.05	2¼	1	⅝	2 30
61	25	7.96	"	"	1	2 60
67	37	11.78	"	"	1	3 40
64	44	14.01	2½	"	1¼	4 10
62	30	10.74	"	1⅛	1	3 20
608	55	19.70	3	"	1½	6 50
609	25	9.95	3¼	1¼	1	3 20
63	36	14.32	3	"	2	4 60
614	39	15.52	2½	"	1¾	4 60
65	40	15.92	3	1¼	1½	$ 4 80
605	48	19.10	3¼	"	1¾	6 00
69	66	26.26	"	"	2	9 00
68	85	33.82	"	"	"	11 25
604	42	20.05	4	1½	"	7 30
66	55	26.26	"	"	"	10 00
613	24	13.37	5	1¾	2½	6 00
606	38	24.19	6	2	"	12 00
610	50	31.83	"	"	"	17 50
607	54	42.97	7	2½	3	28 00
611	25	23.87	8½	3	4	21 75

WORMS AND WORM GEARS.

No. Pattern	No. of Teeth.	Diam.	Face.	Pitch, In.	Price.	Remarks.
307	28	5.57	1	⅝	$ 2 75	Right Hand.
308	Worm	2 8/16	—		2 60	
31	36	10.03	1⅜	⅞	3 50	Right Hand.
32	Worm	3.	—		3 30	
33	62	19.74	2	1	7 20	Right Hand.
34	Worm	4.50	—		5 50	
311	20	9.60	2½	1½	6 20	Right Hand.
312	Worm	4.50	—		6 00	
301	30	14.35	3¼	"	7 60	Right Hand.
302	Worm	6.	—		6 90	
315	30	14.35	3¼	"	7 60	Left Hand.
316	Worm	6.	—		6 90	
303	30	14.35	3¼	"	7 70	Double Threaded Worm.
304	Worm	6.	—		7 30	
35	50	27.87	4	1¾	17 50	Right Hand.
36	Worm	7.50	—		11 50	
309	50	27.87	4	"	19 00	Double Threaded Worm.
310	Worm	7.50	—		12 00	
37	60	38.21	5	2	33 25	Right Hand.
38	Worm	9.	—		17 50	
313	48	38.21	5	2½	39 50	Double Threaded Worm.
314	Worm	9.	—		22 00	
30	24	6.67	1⅜	⅞	3 30	Right Hand.
32	Worm	3.	—		3 30	
305	36	10.03	1⅜	"	3 50	Left Hand.
306	Worm	3.	—		3 30	

CORE GEARING.

Core Gearing is that form of gearing where one of the pair has wooden teeth.

All our Core Gears have their teeth dressed by a patent machine, which insures uniformity and mathematically correct shape of teeth, and we guarantee all gears to be absolutely perfect.

These gears will be found strong, smooth, quiet running and very durable, and as the principal wear is upon the hard, wooden teeth, the wheels are so constructed that the cogs may be renewed at a trifling expense.

SPUR CORE GEARS AND PINIONS.

No. of Pattern	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Remarks.
801	17	10.82	6	2	Pinion.
87	21	13.37	6	"	Pinion.
83	22	14.	7½	"	Pinion.
89	26	16.59	5	"	Pinion.
84	45	28.65	7	"	Mortise.
802	94	59.84	5	"	Mortise.
86	114	72.57	4½	"	Mortise.
85	49	38.99	8	2¼	Mortise.
82	63	60.18	12	3	Mortise.
81	31	29.60	12½	"	Pinion.

In ordering Gears, give pattern number and pitch.

BEVEL MORTISE GEARS AND PINIONS.

No. of Pattern	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Back-ing.	Proportion	Remarks.
52 51	64 16	30.57 7.69	4 4¼	1½	3¾ ½	4 to 1	Mortise. Pinion.
56 55	43 25	23.97 13.96	4½ 4¾	1¾	4¼ 1 3/16	1¾ to 1	Mortise. Pinion.
506 505	36 27	20.05 15.03	6 6¼	"	3 1½	1⅓ to 1	Mortise. Pinion.
510 495	39 19	21.69 10.58	4¾ 5	1¾	1¾ 1	2 to 1	Mortise. Pinion.
502 501	48 36	30.55 22.91	7 7½	2	3¾ 2¼	1⅓ to 1	Mortise. Pinion.
504 503	88 22	56.03 14.05	7½ 7½	"	13 ¾	4 to 1	Mortise. Pinion.
54 53	80 28	57.31 20.09	8 8½	2¼	6½ 1⅝	2 6/7 to 1	Mortise. Pinion.
508 507	60 38	42.97 27.21	8 8½	"	4⅜ 3¼	30 to 19	Mortise. Pinion.
58 57	68 42	54.13 33.45	9 9½	2½	6 2	1⅔ to 1	Mortise. Pinion.

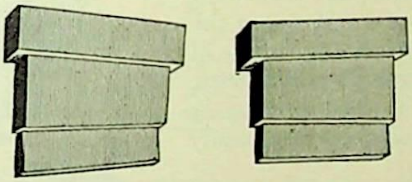
MITRE MORTISE GEARS AND PINIONS.

No. of Pattern	No. of Teeth.	Diameter.	Face.	Pitch, Inches.	Backing	Remarks.
77	38	15.14	3½	1¼	2¼	Mortise.
78	38	15 14	3¾		1¾	Pinion.
701	38	18.16	5	1½	2¾	Mortise.
702	38	18.16	5¼		1½	Pinion.
73	50	23.89	5	1½	2¾	Mortise.
74	50	23.89	5¼		2¾	Pinion.
75	50	27.87	6	1¾	2¼	Mortise.
76	50	27.87	6¼		3½	Pinion.
71	44	28.04	6	2	3¾	Mortise.
72	44	28.04	6¼		2	Pinion.
705	60	38.20	7	"	3	Mortise.
706	60	38.20	7½		4	Pinion.
703	61	43.68	8	2¼	4¼	Mortise.
704	61	43.68	8½		3½	Pinion.

In ordering Gears, give pattern number and pitch.

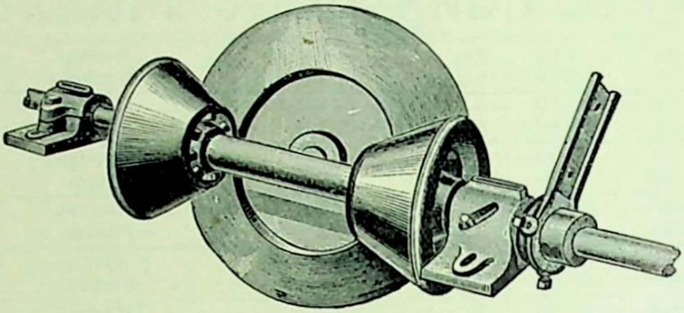
HARD MAPLE COGS.

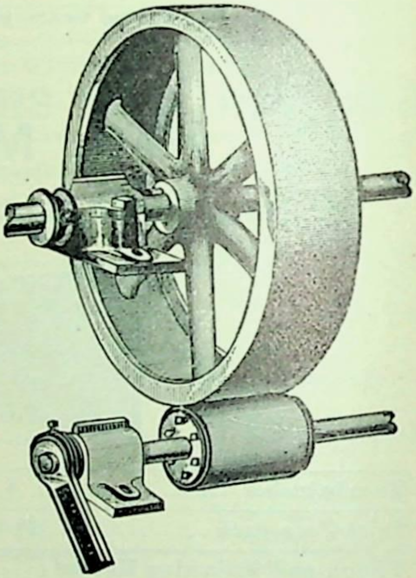
FOR CORE GEARS—SPUR OR BEVEL.



Face in inches	4	5	6	7	8	9	10	11	12
Price Cogs, each	$0.08	.10	.12	.14	.16	.20	.25	.30	.36
Filling and Trimming Mortise Wheels, per tooth	$0.38	.42	.45	.50	.60	.75	.90	1.00	1.10
Dressing Iron Pinion Teeth—one side only, per tooth	$0.25	.30	.35	.40	.45	.50	.60	.70	.80
Teeth Dressed both sides	$0.38	.45	.53	.60	.68	.75	.90	1.05	1.20

Paper and Iron Friction Gearing





Friction Gearing is especially desirable where machinery is frequently thrown in and out of gear, and for reverse motions, being engaged and disengaged by a slight movement of the lever attached to the ECCENTRIC or END-THRUST BOX which forms one of the journal bearings, thus dispensing entirely with a clutch. Friction gearing is NOISELESS IN OPERATION, and may be made to transmit any amount of power required, from the lightest to the heaviest, and although more expensive in FIRST COST, is, for long-continued service, MUCH CHEAPER than toothed gearing, as when properly adjusted there is virtually NO WEAR upon them.

Paper and Iron Friction Gears are being extensively adopted in grain elevators, and we have supplied them for driving the heavy machinery in the largest lumber mills as well as the light, rapid-running tools in watch factories.

Spur Paper Friction Gears

Face in inches—Prices each

Diam.	4½	5½	6½	7½	8½	9½	10½
6	$8.25	$8.75	$9.50	$10.00	$11.25	$12.50	$14.50
7	8.75	9.50	10.00	10.75	12.50	14.50	16.25
8	9.50	10.00	11.25	12.00	13.75	15.75	17.50
9	10.00	10.75	12.25	13.50	16.25	17.50	18.50
10	11.25	12.00	13.25	14.50	17.50	18.25	21.25
12	13.75	15.00	16.25	17.50	18.50	20.00	23.25
14	16.25	17.50	18.50	20.00	21.25	23.75	27.50
16	18.25	18.50	20.75	22.50	25.75	28.50	32.50
18	20.00	22.00	23.75	26.25	29.50	32.50	37.00
20	22.00	24.50	27.00	28.50	32.00	35.00	40.00
22	24.50	26.25	29.50	32.00	33.75	37.50	43.25
24	27.00	28.50	31.25	33.75	35.75	40.00	45.00
26	28.50	31.25	33.75	35.75	37.50	41.25	47.50

Bevel Friction Gears

Gaining Speed

Proportion 1 to 1½ Diam. Face.	Proportion 1 to 2 Diam. Face.	Proportion 1 to 2½ Diam. Face.	Proportion 1 to 3 Diam. Face.	Proportion 1 to 3½ Diam. Face.	Proportion 1 to 4 Diam. Face.	Proportion 7 to 20 Diam. Face.
6 × 2 4 × 1½	8 × 2½ 4 × 2	10 × 3 4 × 2½	12 × 3 4 × 2½	14 × 3 4 × 2½	16 × 3 4 × 2½	20 × 4½ 7 × 4
7½ × 2⅜ 5 × 1⅞	12 × 3¾ 6 × 3	15 × 4¼ 6 × 3½	18 × 4¼ 6 × 3½	21 × 4¼ 6 × 3½	24 × 4½ 6 × 4	Proportion 1 to 1¼ Diam. Face.
10½ × 3⅛ 7 × 2⅝	16 × 4½ 8 × 4	20 × 5¾ 8 × 5	24 × 6 8 × 5	28 × 5½ 8 × 4¾	32 × 6 8 × 5	20 × 5½ 16 × 5
13½ × 4⅛ 9 × 3⅜	18 × 5½ 9 × 4½	25 × 7 10 × 6	30 × 8 10 × 7	35 × 7 10 × 6	40 × 8 10 × 7	
15 × 4½ 10 × 4	20 × 5¾ 10 × 5	30 × 8½ 12 × 7½	36 × 9½ 12 × 8½	42 × 9 12 × 8		
18 × 5¼ 12 × 4½	24 × 6¾ 12 × 6	35 × 9½ 14 × 8½	42 × 10½ 14 × 9½			
24 × 6¾ 16 × 6	28 × 8 14 × 7	40 × 11 16 × 10				
24 × 8¾ 16 × 8	32 × 9 16 × 8					
30 × 8½ 20 × 7½	40 × 11 20 × 10					
36 × 10 24 × 9						
42 × 11½ 28 × 10½						

NOTE.—Paper friction is driver in all cases.

Bevel Friction Gears

Reducing Speed

Proportion 1½ to 1 Diam. Face	Proportion 2 to 1 Diam. Face	Proportion 2½ to 1 Diam. Face	Proportion 3 to 1 Diam. Face	Proportion 4 to 1 Diam. Face	Proportion 5 to 1 Diam. Face	Proportion 6 to 1 Diam. Face	Proportion 1⅕ to 1 Diam. Face
4 × 2 6 × 1½	4 × 2¼ 8 × 1¾	4 × 2 10 × 1½	4 × 2½ 12 × 2	4 × 3½ 16 × 3	3½ × 3 17½ × 2½	3 × 2½ 18 × 2	10 × 4½ 12 × 4
5 × 2½ 7½ × 1¾	6 × 3 12 × 2½	6 × 3¾ 15 × 3	6 × 4¼ 18 × 3½	5 × 4¾ 20 × 4	4½ × 4¼ 22½ × 3½	4 × 3¾ 24 × 3	Proportion 1⅔ to 1 Diam. Face 9 × 5½ 15 × 4
7 × 3 10½ × 2½	8 × 4 16 × 3½	8 × 5¼ 20 × 4½	8 × 5¾ 24 × 5	7 × 6¾ 28 × 6	6 × 5¾ 30 × 5	5 × 6 30 × 5	Proportion 3⅗ to 1 Diam. Face 5 × 5 18 × 4
9 × 4 13½ × 3¼	8½ × 4½ 17 × 4	10 × 6½ 25 × 5½	10 × 6¾ 30 × 6	9 × 9 36 × 8	8 × 8 40 × 7	7 × 8 42 × 7	Proportion 11¼ to 9 Diam. Face 18 × 5¾ 22½ × 5
12 × 5½ 18 × 4½	10 × 5¾ 20 × 5	12 × 7½ 30 × 6½	12 × 8¾ 36 × 8	10 × 9½ 40 × 8½			Proportion 2⅔ to 1 Diam. Face 9 × 6¾ 24 × 6
16 × 6¾ 24 × 5¾	12 × 6¾ 24 × 6	14 × 9 35 × 8	14 × 10½ 42 × 9½				Proportion 3½ to 1 Diam. Face 8 × 6 28 × 5
20 × 8½ 30 × 7½	12 × 6¾ 24 × 6	16 × 10 40 × 9					
24 × 10 36 × 9	14 × 8 28 × 7						
28 × 11½ 42 × 10½	16 × 9 32 × 8						
	20 × 11 40 × 10						

NOTE.—Paper friction is driver in all cases.

Mitre Friction Gears

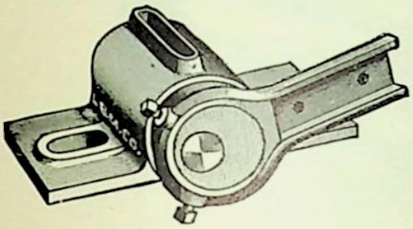
Diam.	Face.					Diam.	Face.								
	2½	3½	4½	5½	6½		2½	3½	4½	5½	6½	7½	8½	9½	10½
9	$1\frac{15}{16}$	$1\frac{11}{16}$				18	$9\frac{7}{16}$	$8\frac{7}{16}$	$6\frac{7}{16}$	$5\frac{7}{16}$	$4\frac{7}{16}$	$3\frac{7}{16}$			
10	$2\frac{3}{16}$	$2\frac{3}{16}$	$1\frac{15}{16}$			20	$11\frac{15}{16}$	$9\frac{15}{16}$	$7\frac{15}{16}$	$6\frac{7}{16}$	$5\frac{7}{16}$	$4\frac{7}{16}$	$3\frac{11}{16}$		
12	$3\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{7}{16}$	$1\frac{15}{16}$		22	$13\frac{15}{16}$	$11\frac{15}{16}$	$9\frac{15}{16}$	$7\frac{15}{16}$	$6\frac{7}{16}$	$5\frac{7}{16}$	$4\frac{11}{16}$	$3\frac{15}{16}$	
14	$6\frac{15}{16}$	$5\frac{15}{16}$	$3\frac{15}{16}$	$2\frac{15}{16}$		24	$15\frac{15}{16}$	$13\frac{15}{16}$	$11\frac{15}{16}$	$10\frac{7}{16}$	$8\frac{15}{16}$	$7\frac{7}{16}$	$6\frac{7}{16}$	$5\frac{7}{16}$	$4\frac{7}{16}$
16	$8\frac{7}{16}$	$7\frac{7}{16}$	$5\frac{15}{16}$	$4\frac{15}{16}$	$3\frac{7}{16}$	26	$17\frac{15}{16}$	$16\frac{7}{16}$	$14\frac{15}{16}$	$13\frac{7}{16}$	$10\frac{15}{16}$	$9\frac{15}{16}$	$8\frac{15}{16}$	$7\frac{15}{16}$	$7\frac{11}{16}$

NOTE.—Figures in spaces denote the maximum size of shafts on which gears can be used. For example: 20″ diam. × 5½″ face, largest size of shaft, $6\frac{7}{16}$″.

Eccentric and End-Thrust Boxes

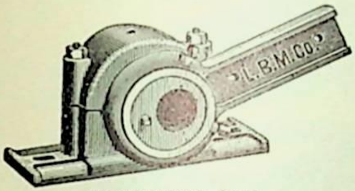
For use with Frictional Gearing

The Eccentric Boxes have babbitted bearings and are of two styles — Rigid and Ball and Socket. The latter, while more expensive in first cost, adjust themselves to the proper line of contact between the gears, and are self-oiling.



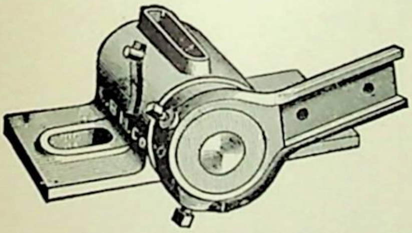
ECCENTRIC BOX.

Used for engaging and disengaging Spur Friction Gearing.



ECCENTRIC BOX.

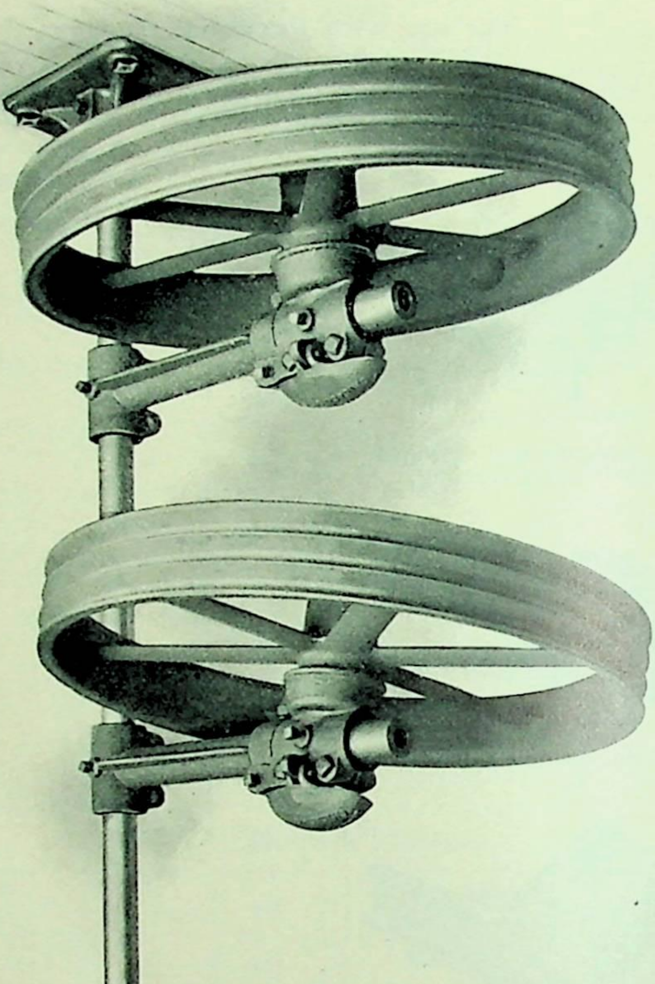
Ball and Socket and Self-Oiling.



PATENT END-THRUST BOX.

Used for engaging and disengaging Bevel and Miter Friction Gearing.

Size of Box.	PRICES.		
	Eccentric Box, Rigid.		End-Thrust Box, Rigid.
$1\frac{3}{16}$	$7.00		$8.25
$1\frac{7}{16}$	8.25		9.50
$1\frac{11}{16}$	9.50		11.00
$1\frac{15}{16}$	11.00		12.75
$2\frac{3}{16}$	12.90		15.00
$2\frac{7}{16}$	14.50		16.75
$2\frac{11}{16}$	16.60		19.50
$2\frac{15}{16}$	18.75		21.75
$3\frac{3}{16}$			
$3\frac{7}{16}$			
$3\frac{11}{16}$			
$3\frac{15}{16}$			
$4\frac{7}{16}$			
$4\frac{15}{16}$			



ADJUSTABLE MULE STANDS

For Sheaves or Pulleys. In writing for prices, state size of pulleys or sheaves, and length of vertical shaft.

TO FIND HORSE POWER OF LEATHER BELTING.

Let D=diameter of pulley in inches.
" F=width of belt in inches.
" R=revolutions per minute.
" H. P.=horse power.

Then horse power$=\frac{D\times F\times R}{2860}$ for single belt.

Horse power$=\frac{D\times F\times R}{1720}$ for double belt.

EXAMPLE:

34-inch pulley for 8-inch single belt running 75 revolutions per minute.

$34\times8\times75=20400$

divide 20400 by 2860=7.13 horse power.

In the same manner find diameter of pulley$=\frac{2860\times \text{H. P.}}{R\times F}$

Or width of belt (single)$=\frac{2860\times \text{H. P.}}{D\times R}$

For double belt use 1720 in place of 2860.

TO FIND HORSE POWER OF GEARS.

Let D=diameter of spur gear, or average diameter of bevel, or mitre gear in inches.
" P=pitch of teeth in inches.
" F=width of teeth in inches.
" R=revolutions per minute.

The horse power$=\frac{D\times P\times F\times R}{550}$

EXAMPLE:

24 inch mitre gear, 1½ inch pitch, 4 inch face, running 40 revolutions per minute.

Average diameter=21 inches

$21\times1.5\times4\times40=5040$

divide 5040 by 550=9.2 horse power.

HORSE POWERS OF SHAFTS.

REVOLUTIONS PER MINUTE.

DIAM. OF SHAFT.	100	125	150	175	200	250	300
$1\frac{3}{16}$	2.4	3.1	3.7	4.3	4.9	6.1	7.3
$1\frac{7}{16}$	4.3	5.3	6.4	7.4	8.5	10	13
$1\frac{11}{16}$	6.7	8.4	10	11.7	13	17	20
$1\frac{15}{16}$	10	12.5	15	17	20	25	30
$2\frac{3}{16}$	14.3	17.8	21	25	28	35	43
$2\frac{7}{16}$	19.5	24.4	29	34	39	49	58
$2\frac{11}{16}$	26	32.5	39	43	52	65	78
$2\frac{15}{16}$	33.8	42.2	51	59	67	84	101
$3\frac{3}{16}$	43	53.6	64	75	86	107	129
$3\frac{7}{16}$	53.6	67	79	94	107	131	159
$3\frac{11}{16}$	65.9	82.4	98	115	121	165	196
$3\frac{15}{16}$	80	100	120	140	160	200	240
$4\frac{7}{16}$	113	142	171	199	228	285	342
$4\frac{15}{16}$	156	195	234	273	312	391	469
$5\frac{7}{16}$	208	260	312	364	416	520	624
$5\frac{15}{16}$	270	337	405	472	540	675	810

TRANSMISSION OF POWER BY MANILA ROPE.

The advantages of transmitting power by Manila Rope are now so well known, and there are so many Rope Drives in daily operation throughout the country, that we will not attempt in this book an exhaustive treatise upon the subject. The views which are here presented, however, show many of its common applications.

We have had an extensive experience in the designing and installation of this class of machinery, having erected Rope Drives capable of transmitting from one to 1,500 horse power. We cannot too strongly emphasize the fact that the designing of Rope Transmissions requires special skill and knowledge obtained only by long experience. Failure to recognize this fact has proved costly to many concerns and done much to cause unwarranted prejudice against this most modern, economical and satisfactory means of transmitting power.

The distribution of power in our entire plant is accomplished by Manila Rope, and a practical illustration may here be seen of the system which this company first introduced, of Manila Rope Power Transmissions employing **Multiple Grooved Iron Sheaves**, with a continuous rope and tension carriage.

We are prepared to make **plans and estimates** for furnishing and erecting machinery to transmit any required power; or, if preferred, will supply skilled superintendent and working drawings for the installation of our machinery.

In writing for information, please give the following particulars:

Relative positions of shafts. (a) Angle.

(b) Distance between points of application of power.

Speed and direction of rotation of each shaft.

Diameters of shafts.

Maximum horse power required.

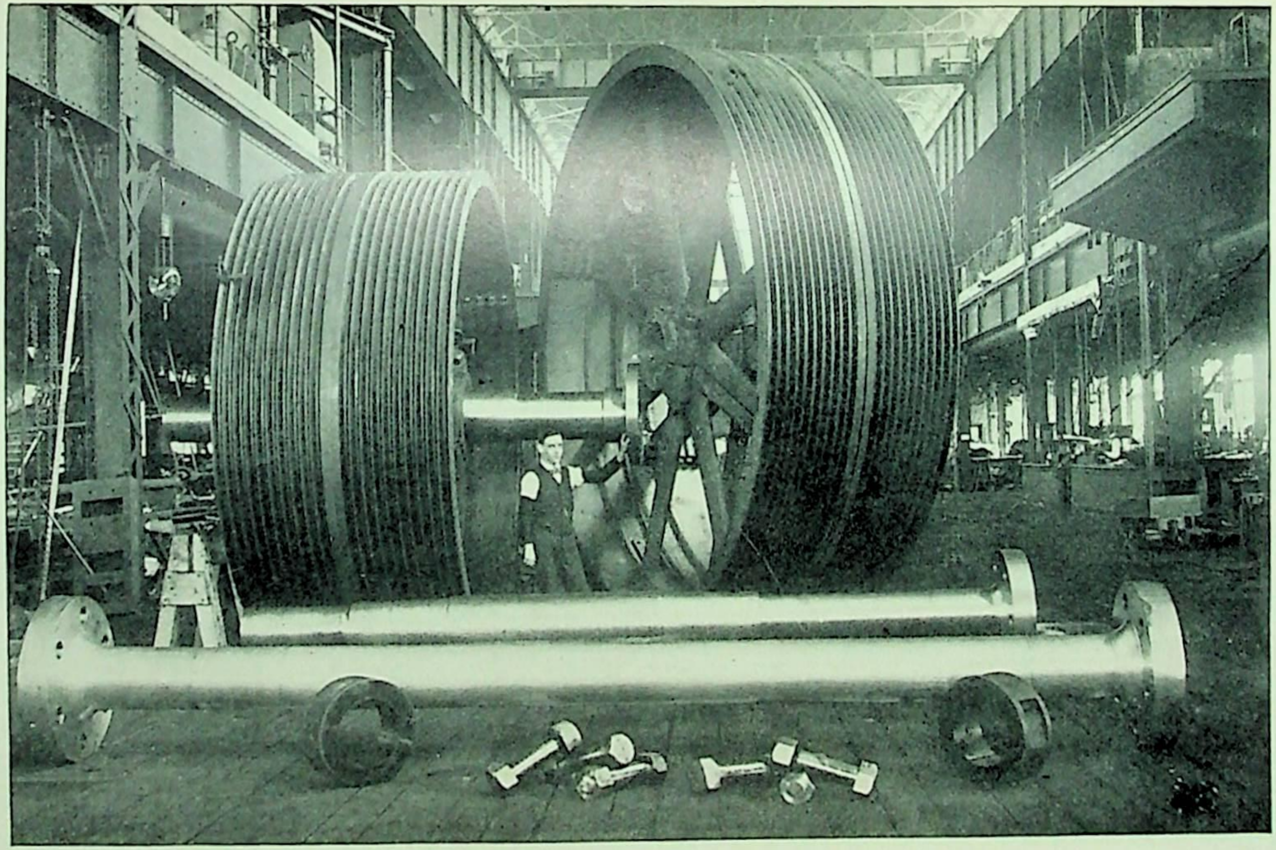
Largest diameter of sheave that can be used.

Position and nature of any obstructions around which the rope must be guided.

Where clutches will be required, and whether a jaw or friction clutch should be used.

A rough sketch will greatly assist us.

Where power to be transmitted is considerable or location difficult, we will send one of our engineers to look over the ground and take the necessary measurements



PATENT MACHINE MOULDED ROPE SHEAVES, AND STEEL SHAFTS,

For 1,400 H. P. Rope Transmission furnished the C. C. Washburn's Flouring Mills Co., Minneapolis, Minn. Driving Sheave 14 feet diameter, weight 40,000 lbs.; Driven Sheave 10 feet 8 inch diameter, weight 22,000 lbs. Both grooved for 20 two-inch ropes. Shafts 11 inches to 15 inches in diameter.

Sheaves for Manila Rope Transmissions.

WITH LINK-BELT PATENT MACHINE MOULDED GROOVES.

From 20 inches to 16 feet in diameter, and with any number of grooves for any size of rope.

If you have occasion to use Rope Transmissions, you will be interested in hearing about our Machine Moulded Sheaves. Perhaps you will appreciate their advantages best by considering first the disadvantages of those you have been using. Your sheaves, whether made from your own patterns or bought elsewhere, have had their grooves formed by segment cores. These cores twist and warp out of true in drying, and are generally so much offset at the joints as to require heavy cuts in turning, with a consequent waste in metal and tendency of the rim to spring out of true. The cut also goes clear through the close-grained portion, or skin of the casting, leaving spots of rough open-grained porous surface, with a resulting rapid deterioration of the sheave and rope, frequent renewals and vexatious delays.

Our sheaves, having grooves moulded on the only sheave moulding machine in the United States, are **lighter** and **stronger** than the corresponding sizes of sheaves made by old methods, the metal being distributed to much better advantage. The grooves are moulded **true** at the outset, thus reducing very materially the **time** and **waste** in the machine shop, and furnishing a **hard, smooth finished** surface which increases the life of the sheave and rope; and the general result is a superior finished sheave at a **reduced cost.**

Sheaves which we finish ourselves are turned with the greatest accuracy, all the grooves in a sheave being finished to gauge to insure exactness in the circumference. This is an essential feature in multiple groove sheaves, as any variation in the circumference of different grooves will force the ropes to slip or creep, causing rapid wear and loss of power.

Send us specifications of sizes desired, or give particulars as to the work to be performed, and we will submit estimates promptly on what you require.

. . PRICE LIST OF . .

Sheaves for Manila Rope Transmissions

Patent Machine Moulded Grooves

Accurately Turned, Balanced, Bored and Painted, with Set Screws or Key Seats.

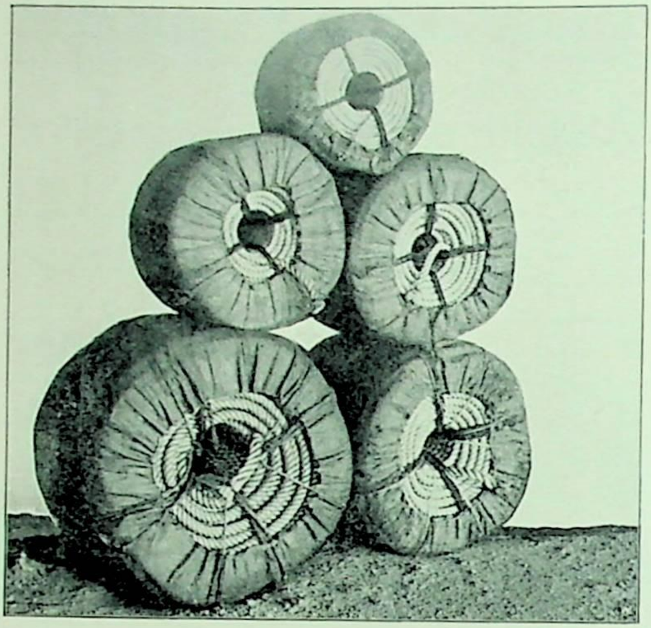
Diameter in Inches.	Number of Grooves.										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**
20	15 00	17 50	20 00	22 50	26 00	30 50	35 00	39 50	43 00	48 00	
22	16 00	19 00	22 00	25 00	29 00	32 00	37 50	42 00	47 00	52 00	
24	17 50	21 00	23 00	27 00	31 00	35 00	40 00	46 00	50 00	56 00	
26	19 00	23 00	24 50	29 00	33 50	39 00	44 00	49 00	55 00	60 00	
28	20 50	24 25	27 00	31 00	36 00	41 00	47 00	53 00	59 00	64 00	
30	22 00	26 25	29 00	33 00	39 00	44 00	50 00	56 00	62 00	69 00	82 00
32	24 00	28 50	31 00	35 00	41 00	46 00	53 00	59 50	66 00	72 00	87 00
34	26 00	30 00	33 50	37 50	43 50	49 00	57 50	64 25	71 25	78 00	94 50
36	28 00	32 00	36 00	40 50	46 25	52 00	61 00	68 50	76 00	83 25	101 00
38	30 00	34 25	38 50	42 00	49 00	58 00	65 00	73 00	81 00	89 25	107 00
40	32 00	36 50	41 00	44 50	52 00	60 00	68 50	77 00	86 00	96 00	113 50
42	34 25	38 75	43 50	47 00	55 50	64 00	73 00	82 50	91 00	101 00	121 00
44	36 75	41 00	46 25	51 00	59 00	67 50	77 50	86 00	95 50	106 00	128 50
46	39 25	43 75	49 25	53 00	62 50	71 75	81 25	91 00	101 50	112 50	135 00
48	42 00	47 50	52 50	57 00	66 00	76 00	86 50	96 50	107 50	119 50	142 00
50	45 00	50 00	54 75	61 00	69 75	80 50	92 00	102 50	113 00	125 50	149 00
52	48 25	53 25	58 00	65 00	73 50	87 25	97 00	107 50	119 50	132 00	157 50
54	51 25	56 50	61 75	69 00	79 00	90 00	102 50	113 25	126 50	139 50	166 00
56	55 00	60 50	65 00	73 00	83 00	95 25	108 00	121 00	134 00	148 00	176 00
58	58 50	64 50	69 50	77 00	87 00	100 00	114 50	127 50	140 50	156 00	184 50
60	63 00	69 00	74 00	81 00	92 00	106 00	121 50	135 00	148 50	164 00	193 50
62	67 00	73 00	78 50	86 00	97 00	112 00	127 00	141 50	155 50	172 50	203 50
64	71 00	77 50	83 00	91 50	104 00	119 00	134 50	149 00	163 00	181 50	214 00
66	75 00	82 00	88 00	96 75	109 25	125 00	141 75	157 00	172 50	190 50	225 00
68	80 50	87 00	93 00	102 00	116 00	132 00	149 00	166 00	183 00	201 00	236 50
70	86 00	93 00	98 50	108 50	122 00	139 00	156 50	174 00	191 00	211 00	248 50
72	91 50	98 50	105 00	115 00	129 50	146 50	164 50	182 00	201 50	221 50	261 00
74	97 50	103 50	111 00	122 00	136 50	154 50	173 50	192 00	211 50	233 00	274 00
76	103 50	111 00	117 00	129 00	144 00	163 00	181 00	203 00	223 00	245 50	286 50
78	110 00	118 50	123 50	136 00	152 00	172 00	192 50	213 50	234 50	257 50	300 00
80	116 50	123 50	130 00	143 00	161 00	182 00	203 00	224 50	247 00	270 00	316 00
82	125 00	132 00	137 50	150 50	169 00	191 00	212 50	239 50	258 50	282 50	330 50
84	132 00	139 50	146 50	159 00	178 50	201 50	224 50	248 50	272 50	297 00	346 00
86	141 00	148 00	154 00	168 00	187 50	211 50	235 00	260 00	285 00	311 00	361 50
88	149 50	157 00	162 50	177 00	198 00	223 50	248 00	274 00	300 00	326 50	379 00
90	159 00	166 00	172 00	187 50	208 00	234 00	259 50	287 00	313 50	341 00	395 50
92	168 50	176 00	182 50	198 00	220 00	247 00	273 50	301 00	229 00	357 00	415 00
94	178 00	185 00	193 00	208 00	230 00	258 00	285 50	315 00	243 00	373 00	432 50
96	190 00	198 00	205 00	219 00	242 00	270 00	299 00	329 00	359 00	390 00	453 00

Sheaves grooved for ¾", ⅞", 1 ' and 1⅛" Rope............Discount.

Sheaves grooved for 1¼", 1⅜ ' and 1½" Rope....... .....Discount.

On Sheaves larger than 96 inches in diameter, and grooved for ropes larger than 1½ inches, and on ROUGH SHEAVE CASTINGS, special prices will be quoted on application

THE RED THREAD BRAND OF TALLOW LAID MANILA TRANSMISSION ROPE



Is manufactured exclusively for us by the best rope makers in the country. It is made of selected long fiber, and is the Rope we adopted after a series of unprejudiced tests which we made of all the best ropes obtainable in this country and Europe. Its first cost is greater than that of the ordinary Manila Rope, which our experience has shown to be not sufficiently durable for this class of work.

We carry a stock of all sizes and can make prompt shipment.

In order to obtain the best results, we would caution all users of Rope to run it onto the sheaves without kink or twist before splicing. We indicate by tags how to place the coil, and at which end to commence drawing it out or uncoiling it.

THE ATLAS BRAND OF MANILA TRANSMISSION ROPE

Is manufactured for us by the same rope makers in a grade which is guaranteed to be fully equal to the best qualities of other makes, and we offer it at competition prices to those who consider the best of other makes good enough for the work they have in hand.

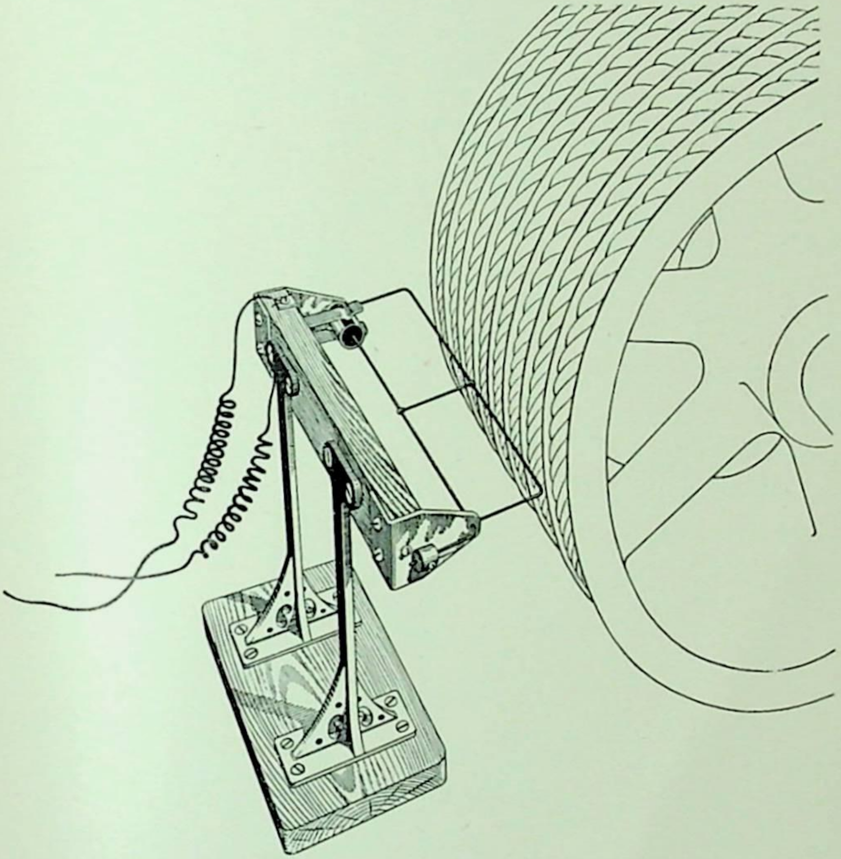
LINK-BELT ROPE DRESSING

Keeps the Rope soft and pliable, protects it from external and internal friction, heat and moisture. Especially desirable for out-of-door drives. It is molded into sticks of 3 lbs. each, of convenient form and easily applied.

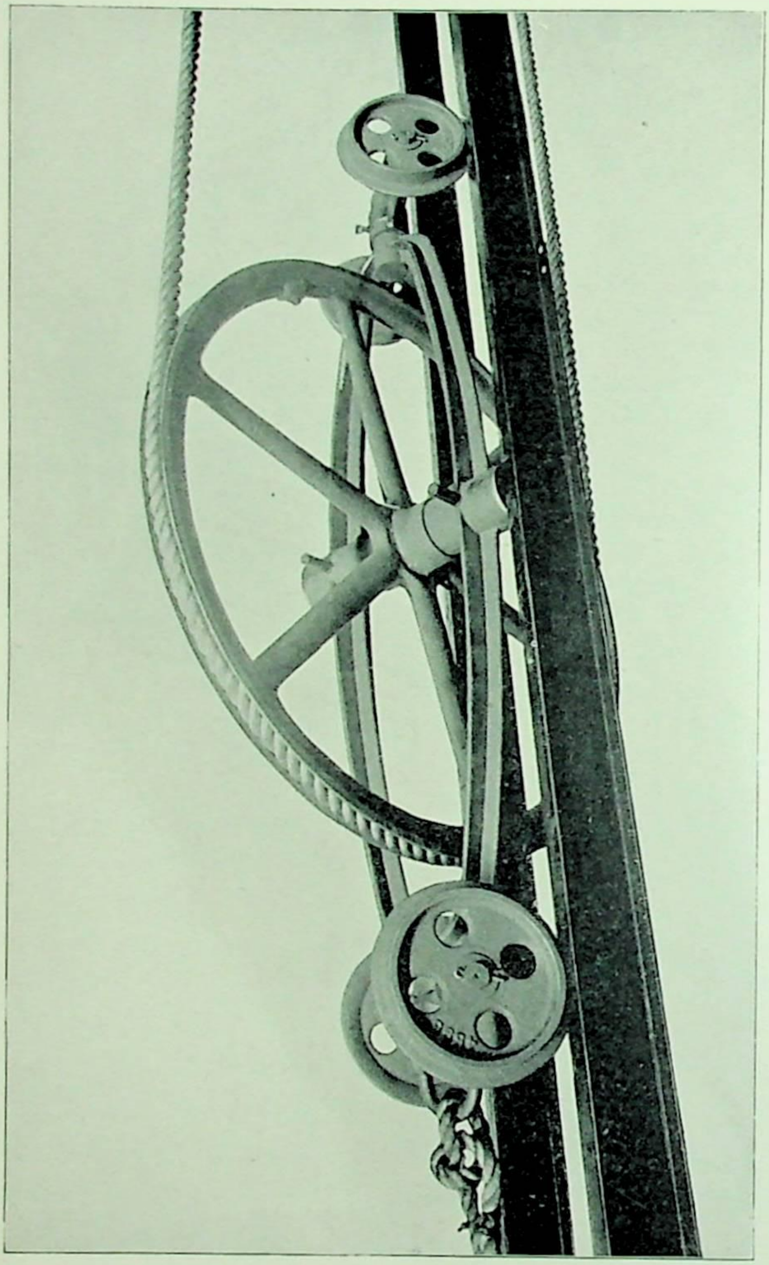
Price, $1.50.

BEHRING-ENG-CHI.

Electrical Indicator.



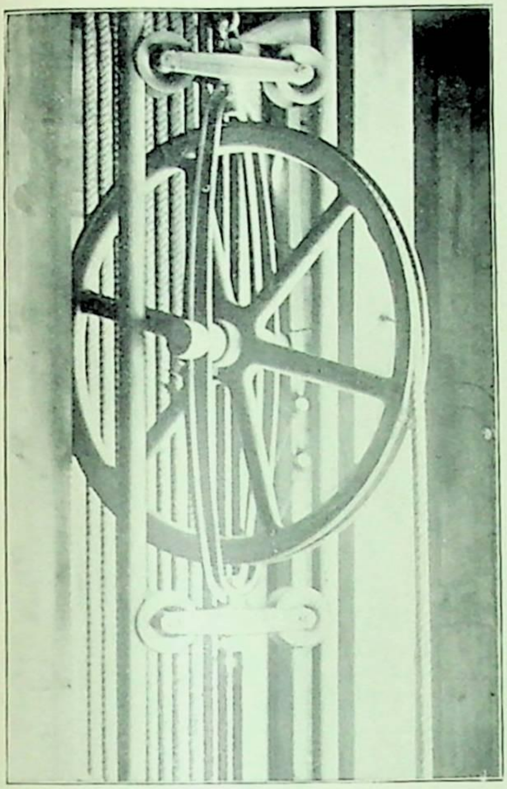
This little device, placed close to the sheaves, wherever convenient, gives immediate warning, by ringing a bell, of any difficulty with the transmission. The warning is given the moment the rope begins to unstrand, or in ample time to shut off the transmission and to avoid any destruction.



LINK-BELT ADJUSTABLE TENSION CARRIAGE.

USED HORIZONTALLY.

Adapts itself automatically to the proper tilt.

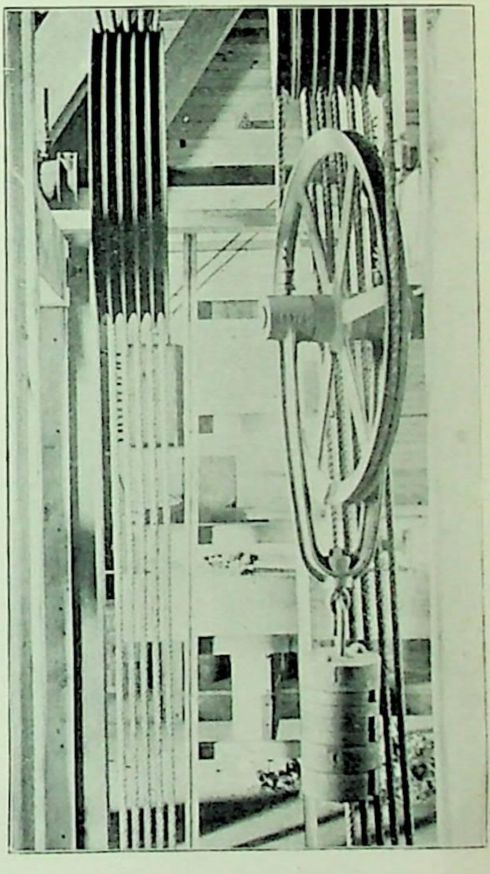


LINK-BELT

ADJUSTABLE

Tension Carriage

USED VERTICALLY

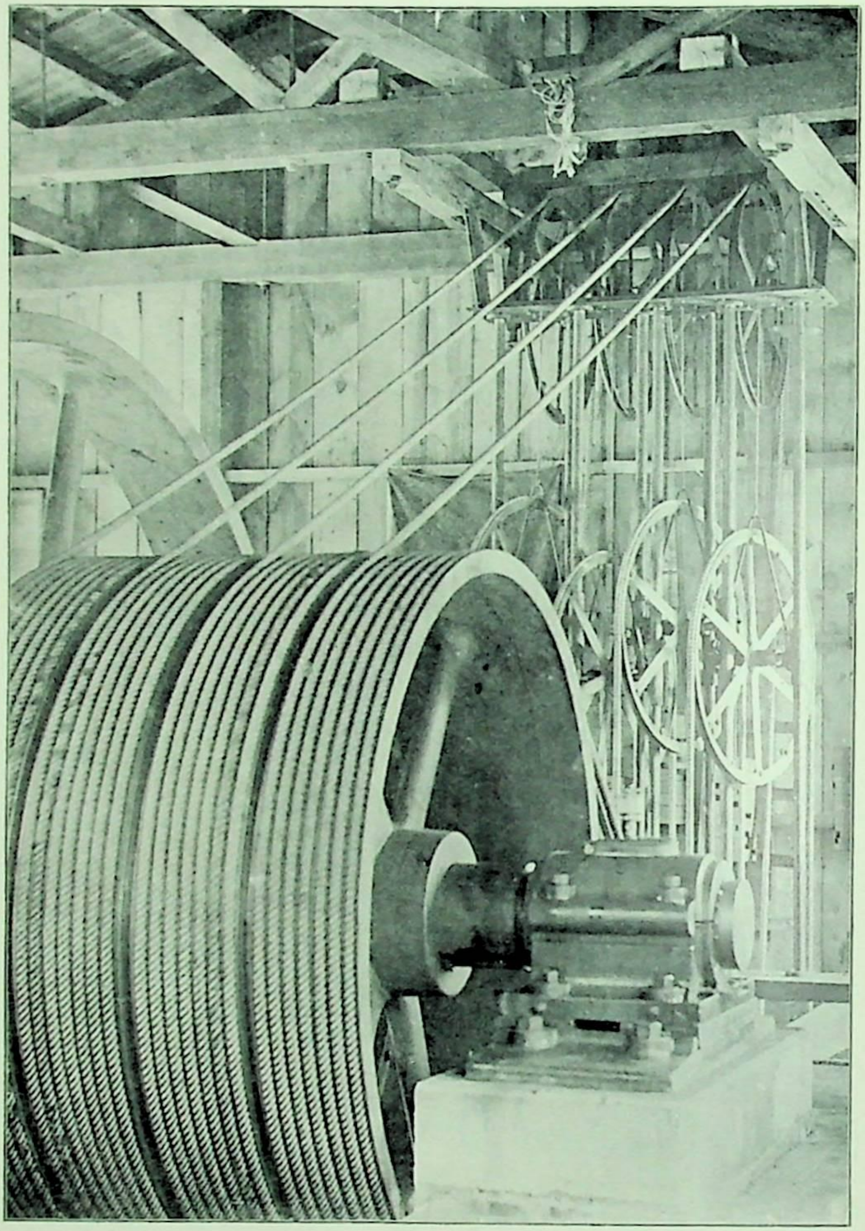


LINK-BELT

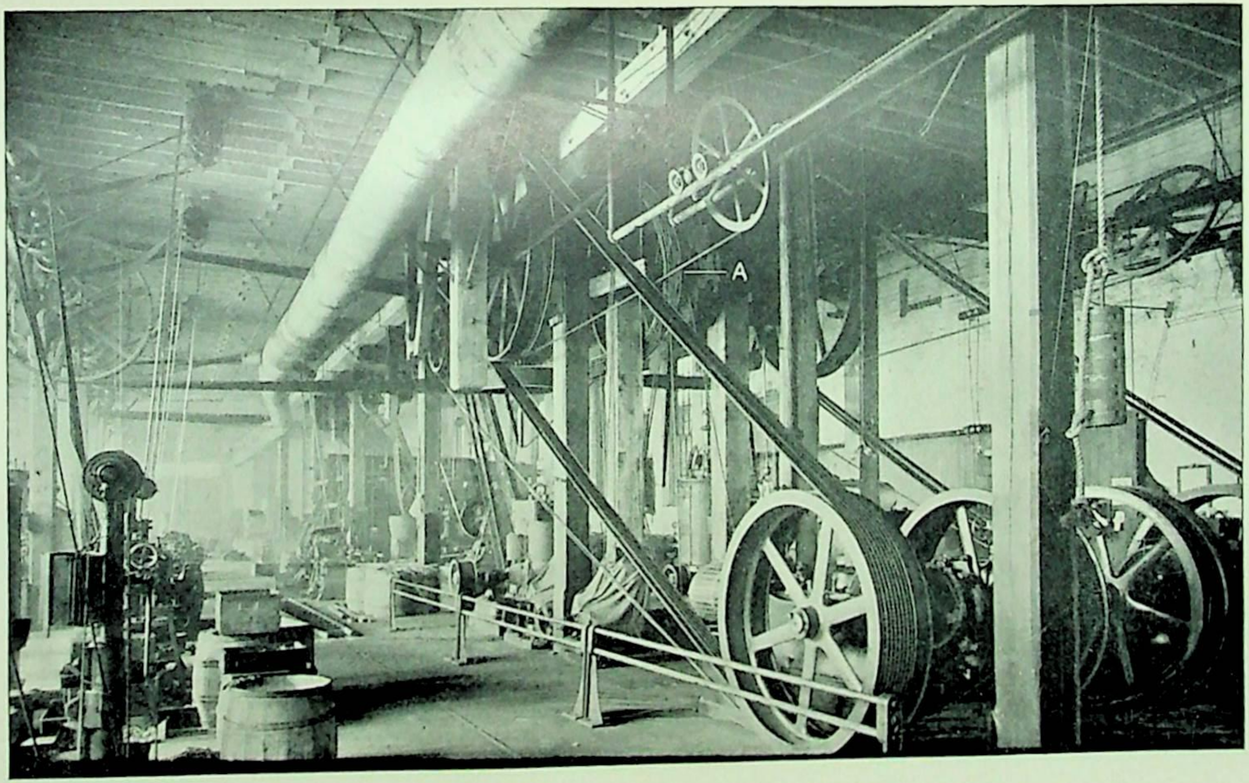
PLAIN
VERTICAL

Tension Carriage

WITHOUT TRACKS



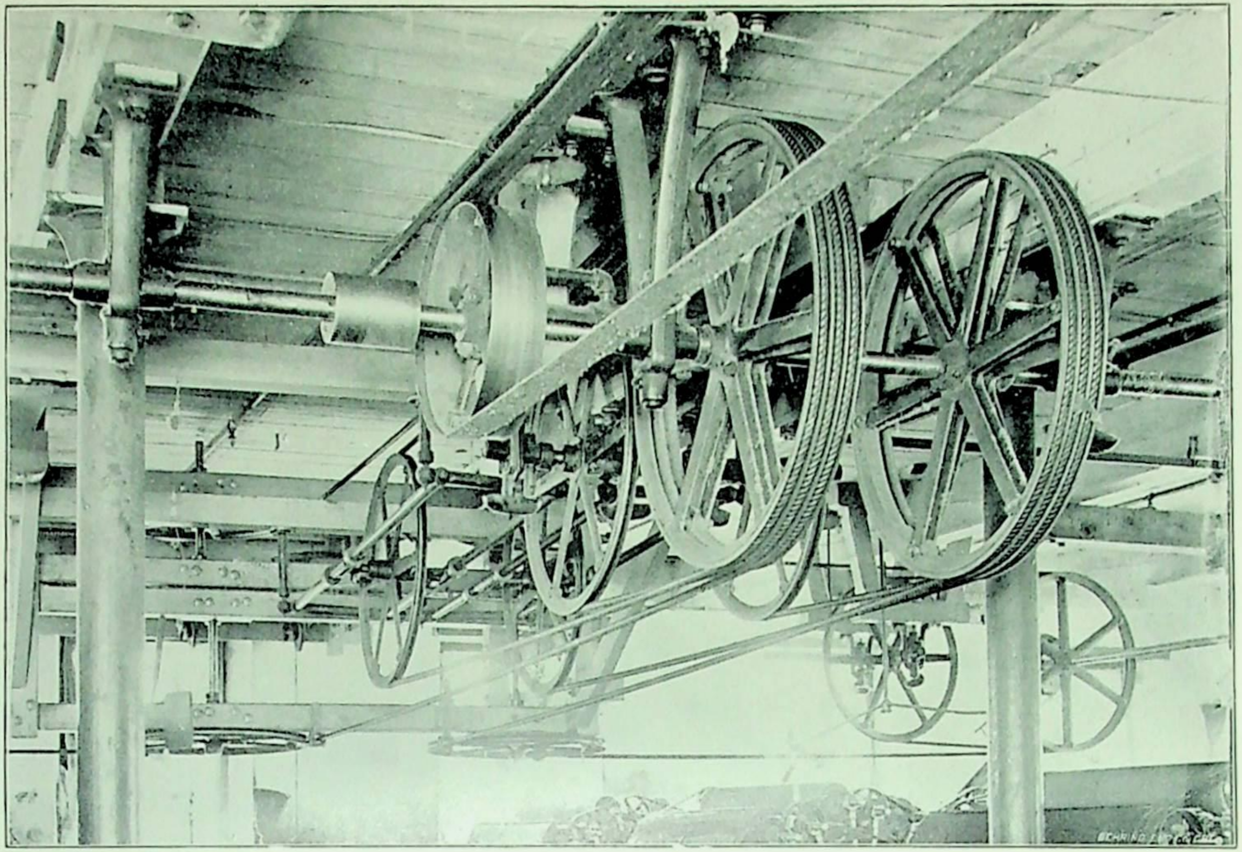
500 H. P. Rope Drive from engine to jack-shaft in four separate drives, each with its own tension carriage and having seven strands of 1⅞ inch rope. Driven sheave 96 inches in diameter, 32 grooves. American Axe and Tool Co., Beaver Falls, Pa.



ROPE DRIVES

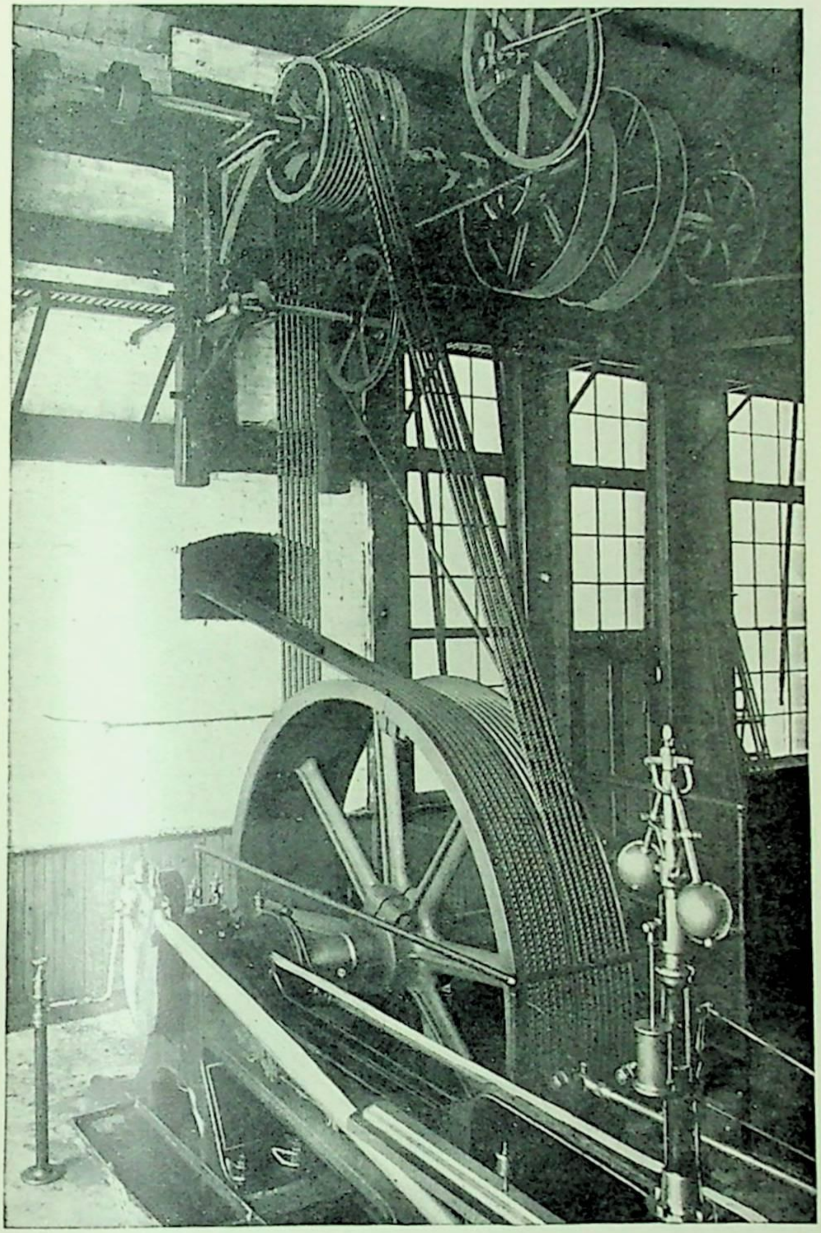
Transmitting power from two 100 H. P. engines to jack-shaft provided with clutch couplings so that either engine will drive rope sheave marked "A." From this sheave power is transmitted by a third rope drive around mule stand to line shaft at right angles to jack-shaft. The fourth sheave on jack-shaft is fitted with friction clutch to drive dynamos. Only one shown in use.

Erected at March-Davis Cycle Company's Works, Chicago, Ill.



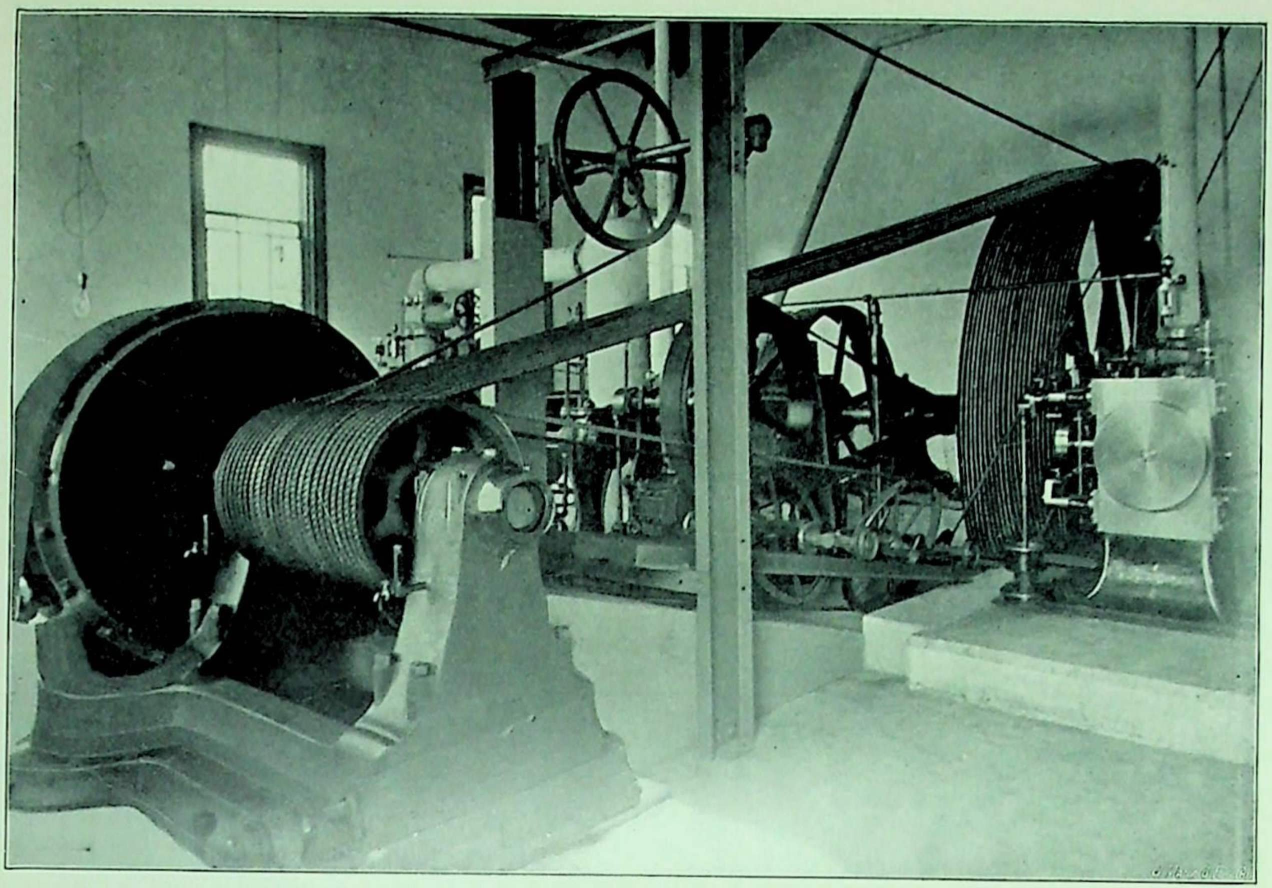
TWO TWENTY HORSE POWER ROPE DRIVES.

In Mill of W. H. Grundy & Co., Bristol, Pa. $1\frac{1}{8}$ inch rope. Erected 1893.
Driven shafts at right angles to driver. Re-winding sheaves used to give additional adhesion.



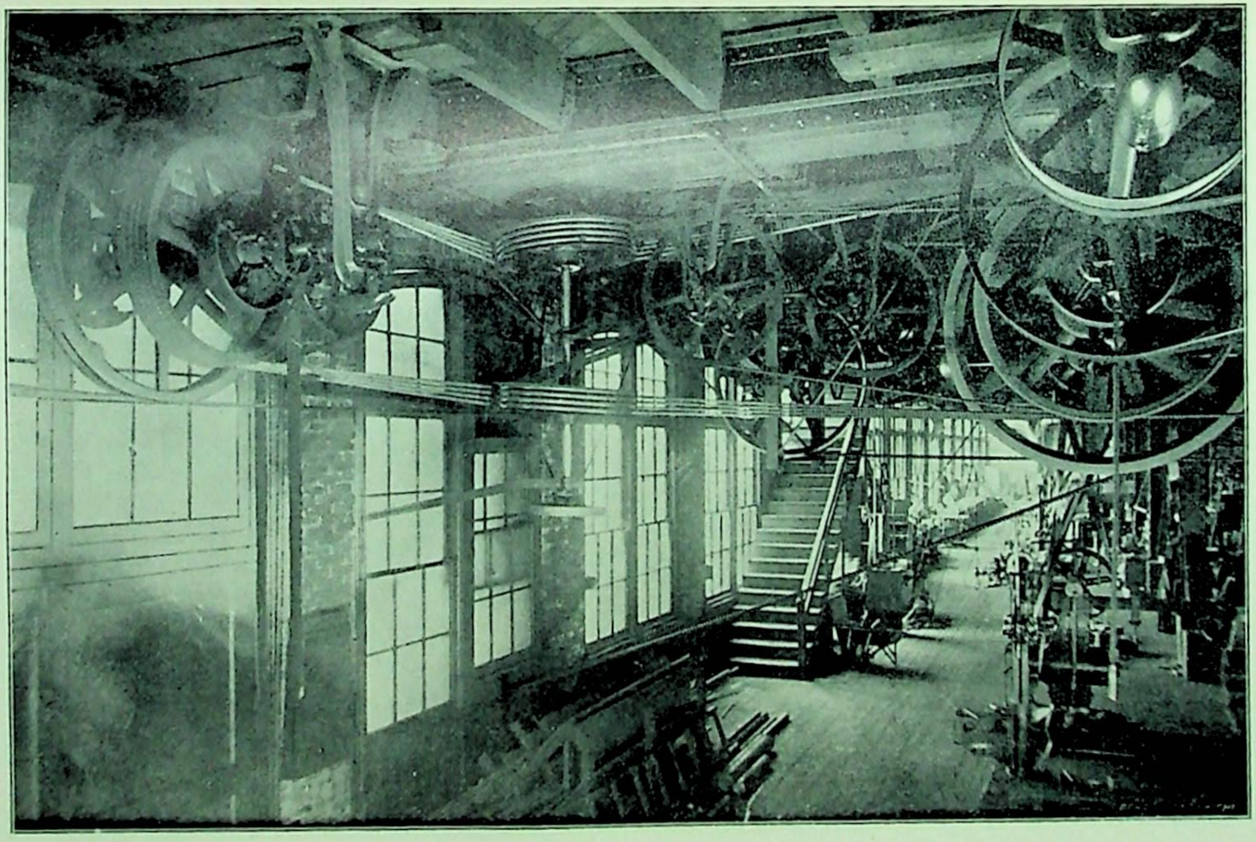
ENGINE ROOM

Of Link-Belt Machinery Co., showing 200 Horse Power Transmission from Fly Wheel on Engine. One drive to Line Shaft in Machine Shop, $1\frac{1}{4}$ inch rope. Upper drive to Jack-shaft for distribution of power to Foundry, to Smith Shop and Dynamos, using $1\frac{3}{8}$ inch rope. Erected 1891.



300 H. P. ROPE DRIVE,

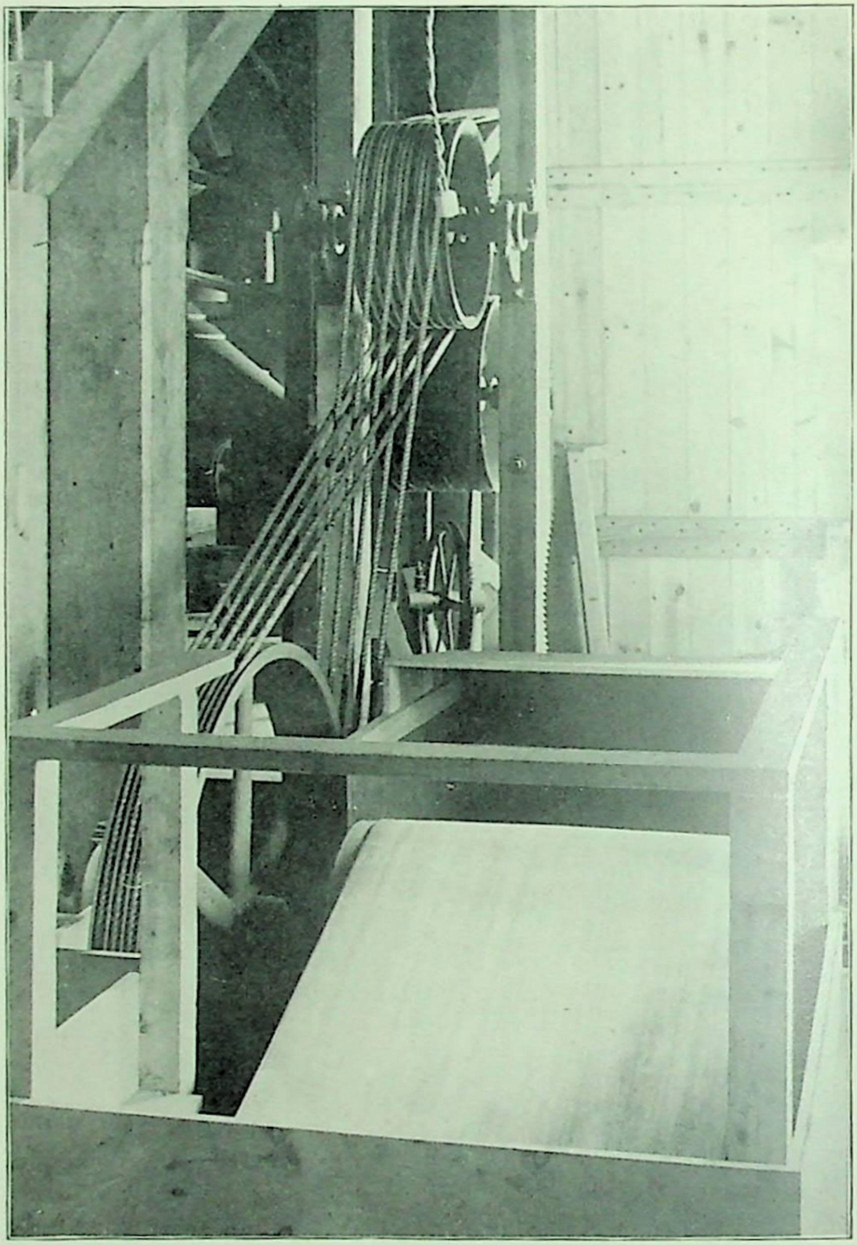
Using three continuous ropes and tension carriages direct from engine to 2,500 light dynamo. Erected 1895 at Municipal Electric Lighting Plant, Independence, Ia



RIGHT ANGLE SHORT CENTER DRIVE

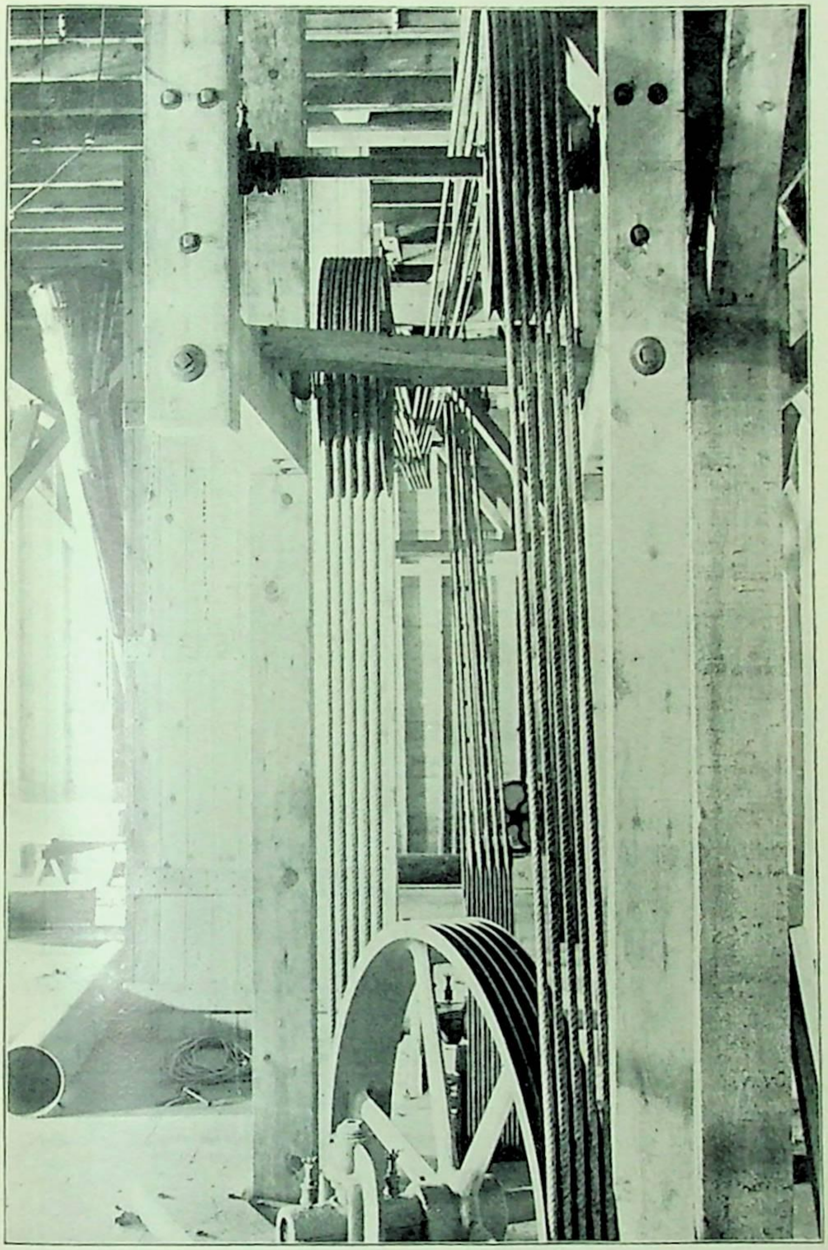
From Main Line Shaft to Counter in our Machine Shop. 1 inch rope. On extreme left is a sheave transmitting power in both directions, using one continuous single rope. Main Drive from Engine is also shown.

For transmitting power between shafts at an angle, or running in opposite directions, either horizontal or vertical, rope is the most satisfactory method. The pull of the Tension Carriage keeps the rope from running off the pulleys, and there is none of the loss of power which is experienced in a crossed or quarter turn belt,

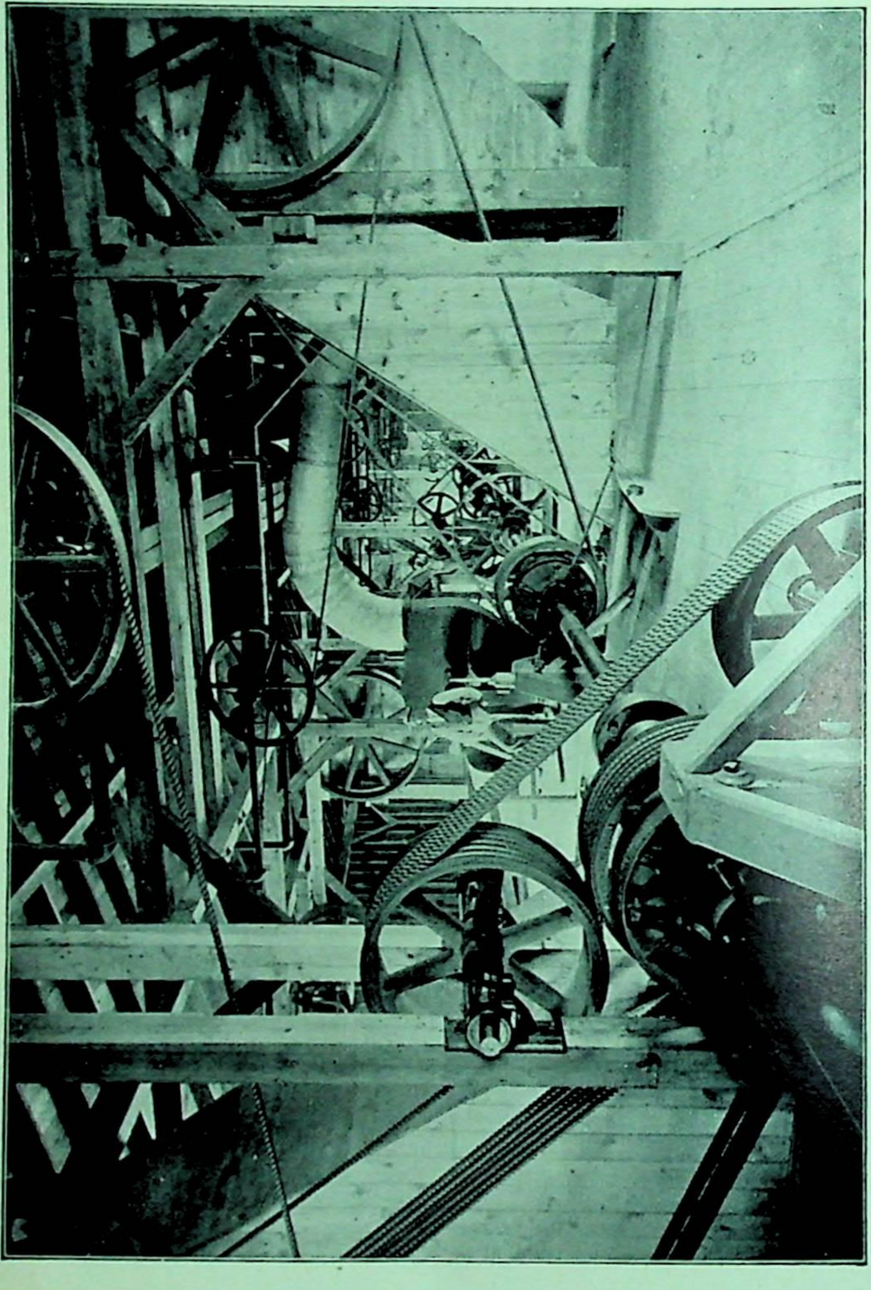


CROSSED ROPE DRIVE

Transmitting power to Belt Conveyor, Minnesota Elevator (Armour & Co.), Chicago

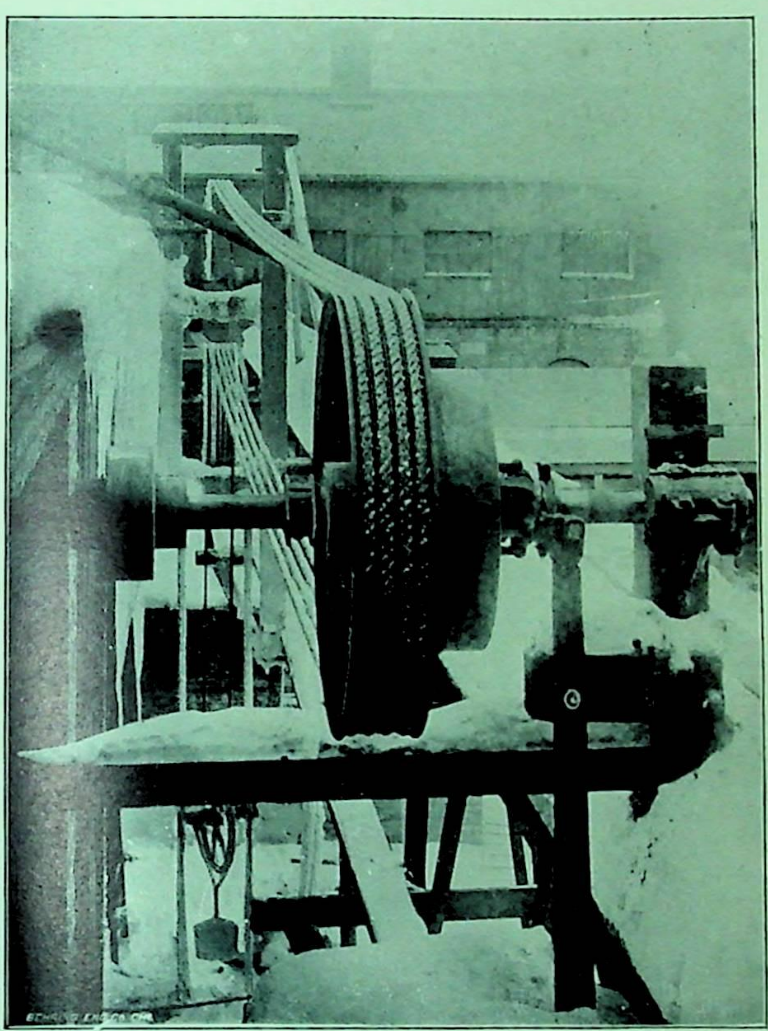


Rope Drive between two shafts not parallel, Minnesota Elevator (Armour & Co.), Chicago.



VIEW OF LINE SHAFT, ROPE DRIVES AND ELEVATOR HEADS

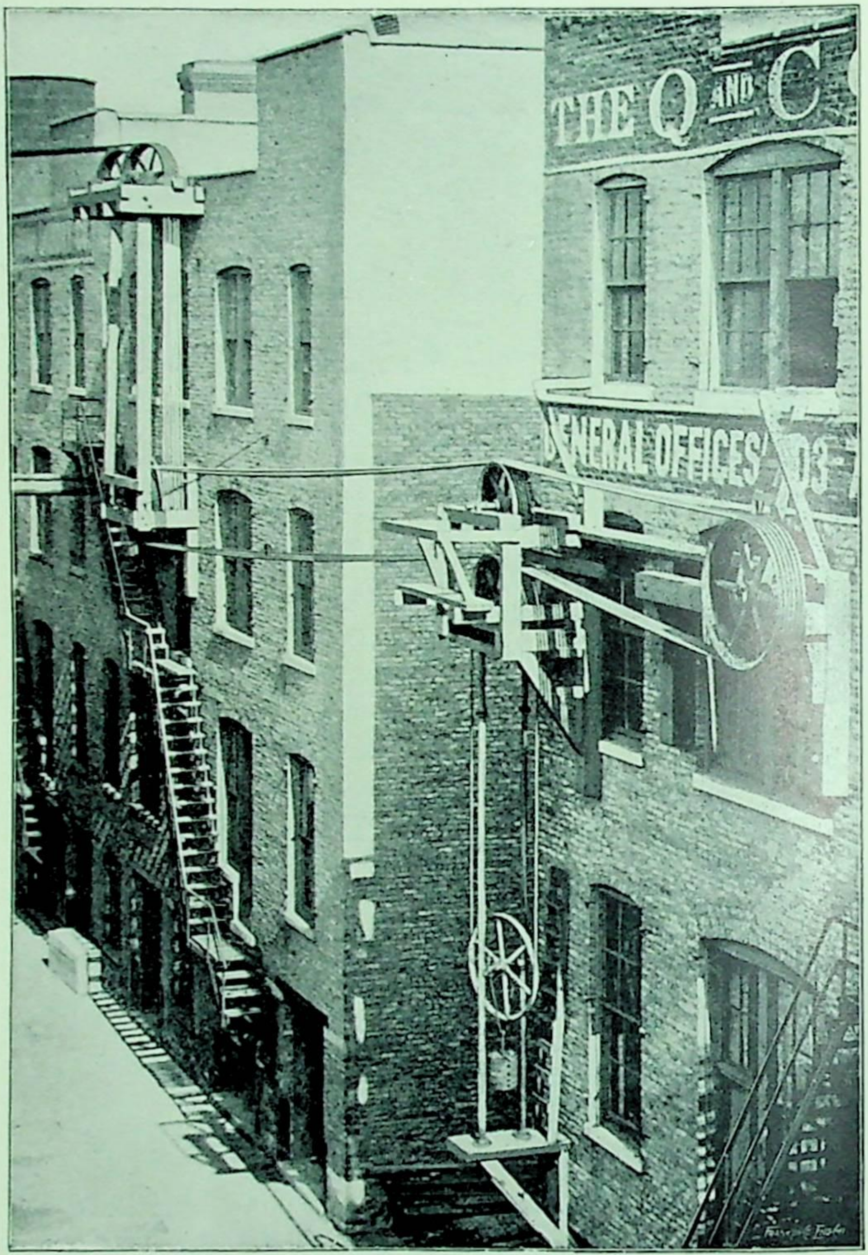
In monitor of Counselman Elevator, South Chicago, Ill. (Capacity, 1,500,000 bu.) Entire distribution of power throughout Elevator by Manila Rope. Total power transmitted from engine, 600 h. p. For each elevator head shown in cut, 30 h. p. Elevators on right, direct drives. Motion reversed for elevators on left hand side. Erected 1892.



40 H. P. OUT-DOOR ROPE DRIVE

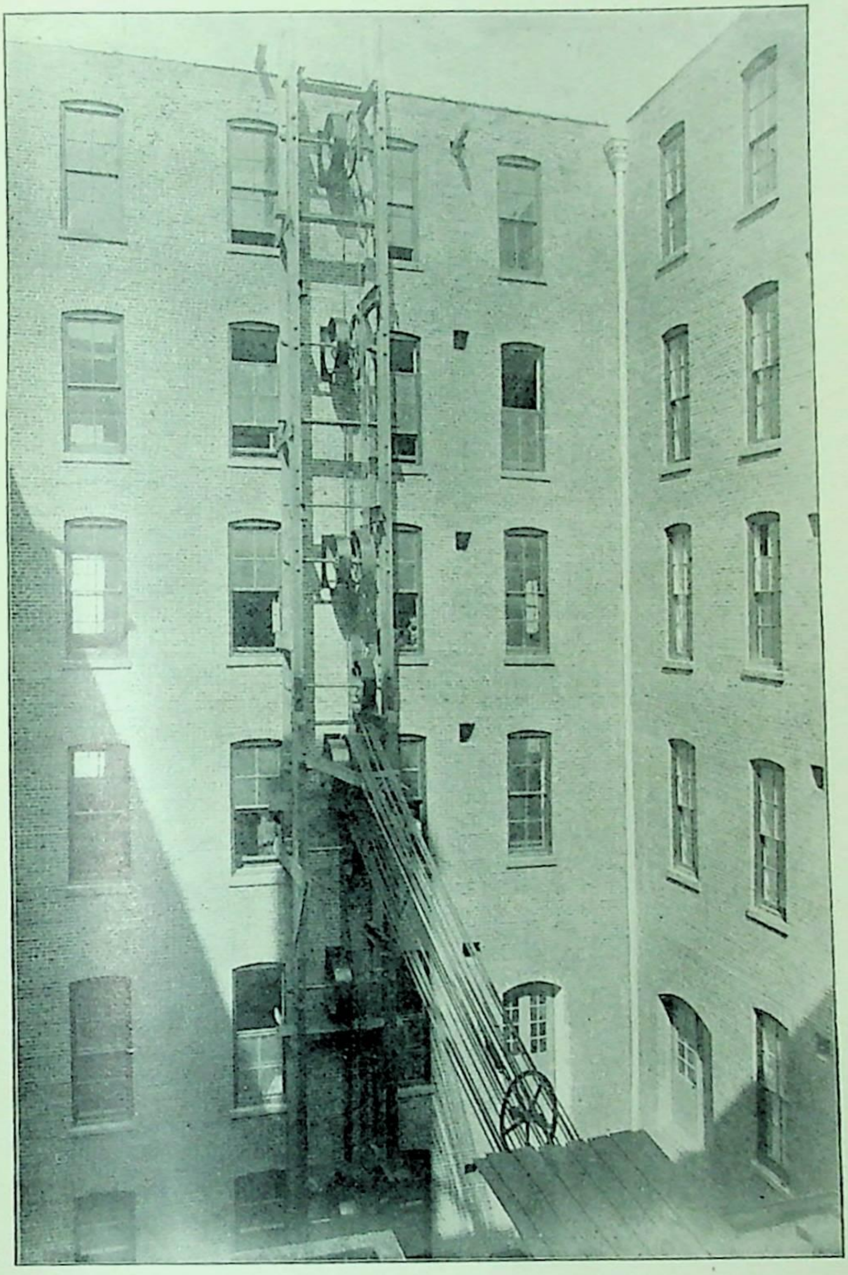
and Vertical Tension Carriage, from upper Jack-shaft in Engine Room of Link-Belt Machinery Co. to Foundry. Erected 1893.

This drive ran daily without a moment's trouble during the six weeks of severe weather in winter of 1895.



TWO OUT-DOOR DRIVES

At plant of George Enger, Twenty-seventh Street and Stewart Avenue, Chicago. Drive on the left ascends vertically from jack-shaft in basement of building not shown, passes over roof of building and court and descends, transmitting 100 H. P. to line shaft. From the extension of this line shaft 70 H. P. is carried by the second drive to line shaft projecting through the wall of building on the right.



75 H. P. vertical Rope Drive at plant of Mergenthaler Linotype Co., Brooklyn, N. Y. Power distributed on six floors.

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